The NATIONAL GEOGRAPHIC MAGAZINE

Vol. XV MARCH, 1904 No. 3

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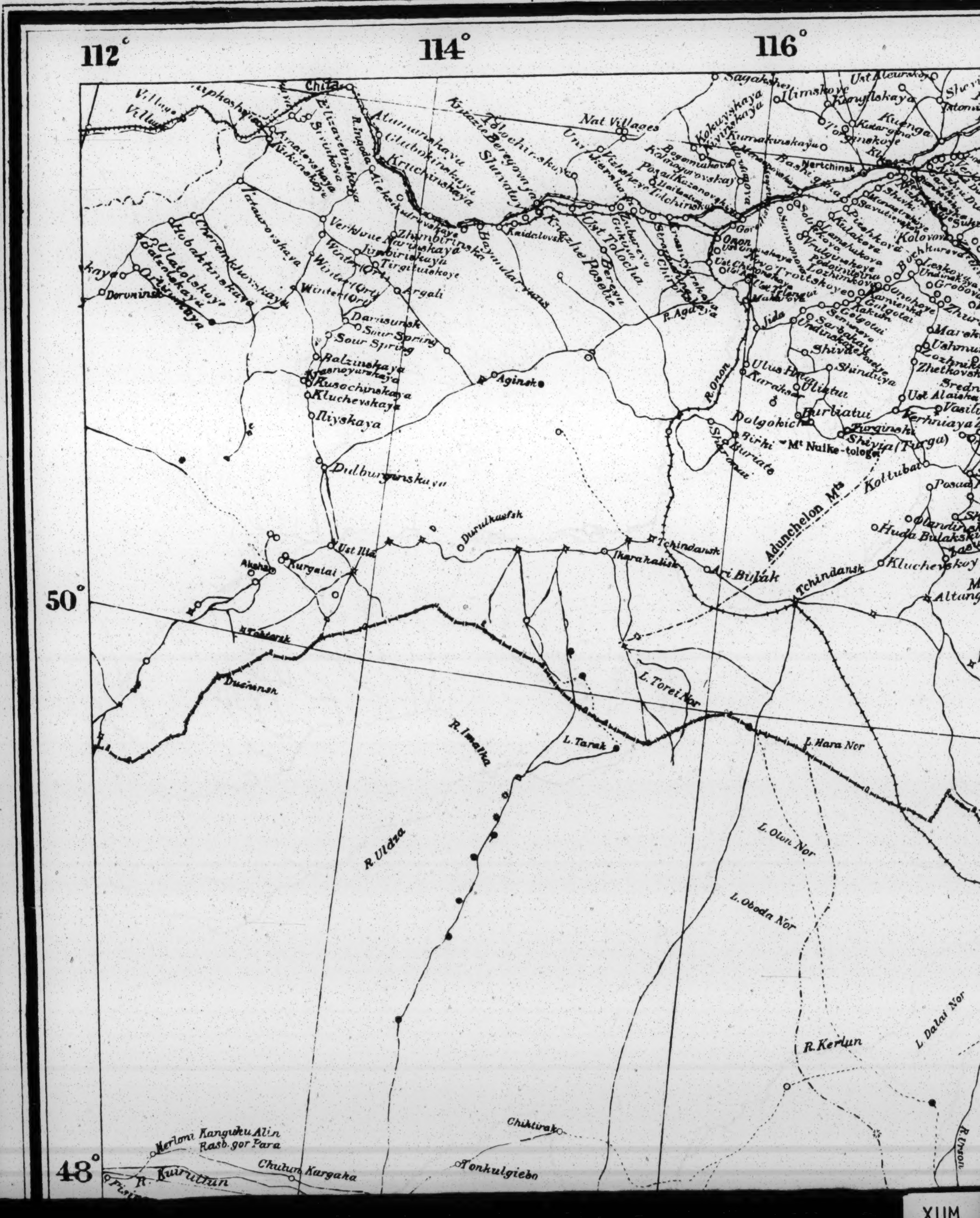
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R. Urson
Chiktirak
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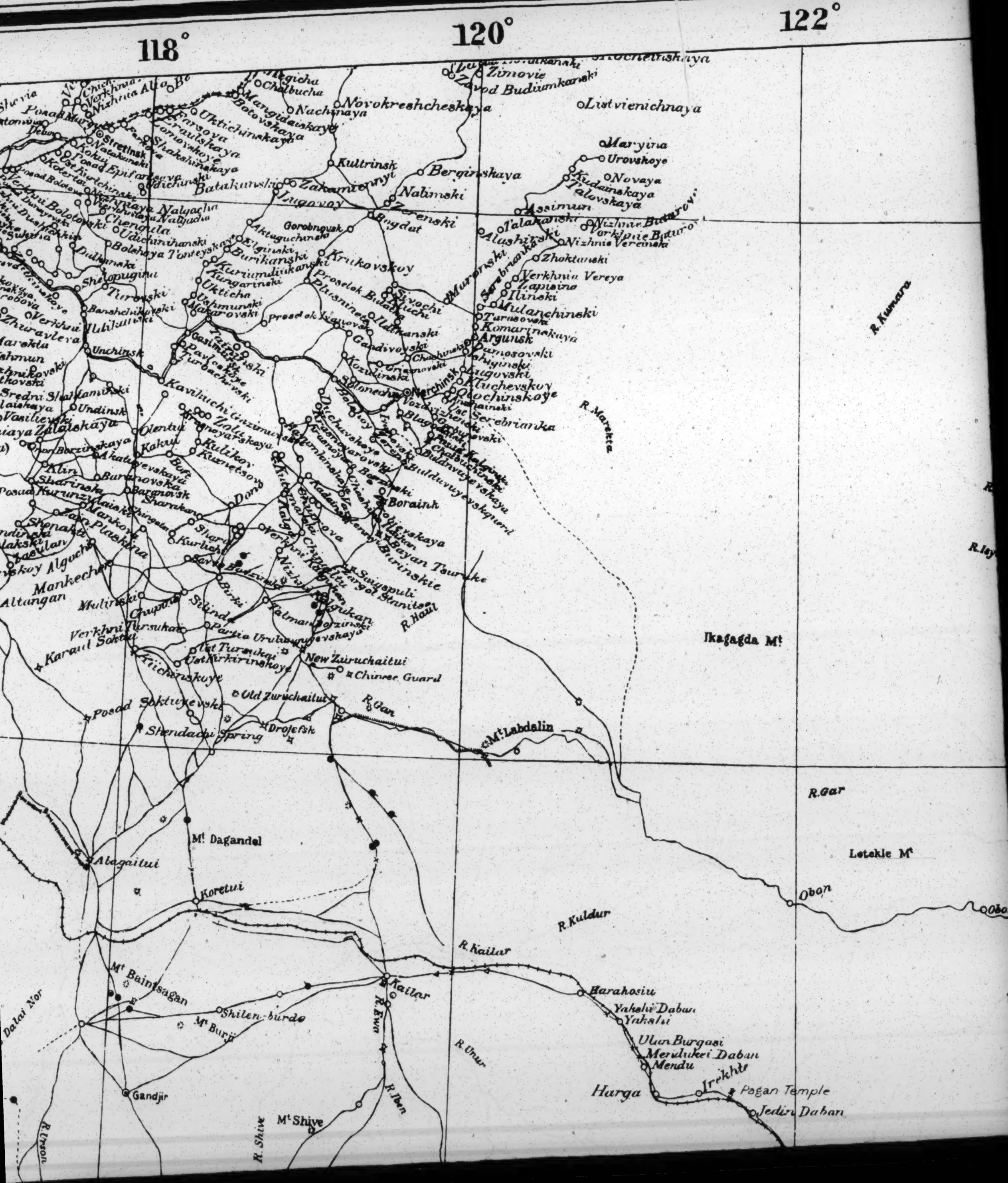
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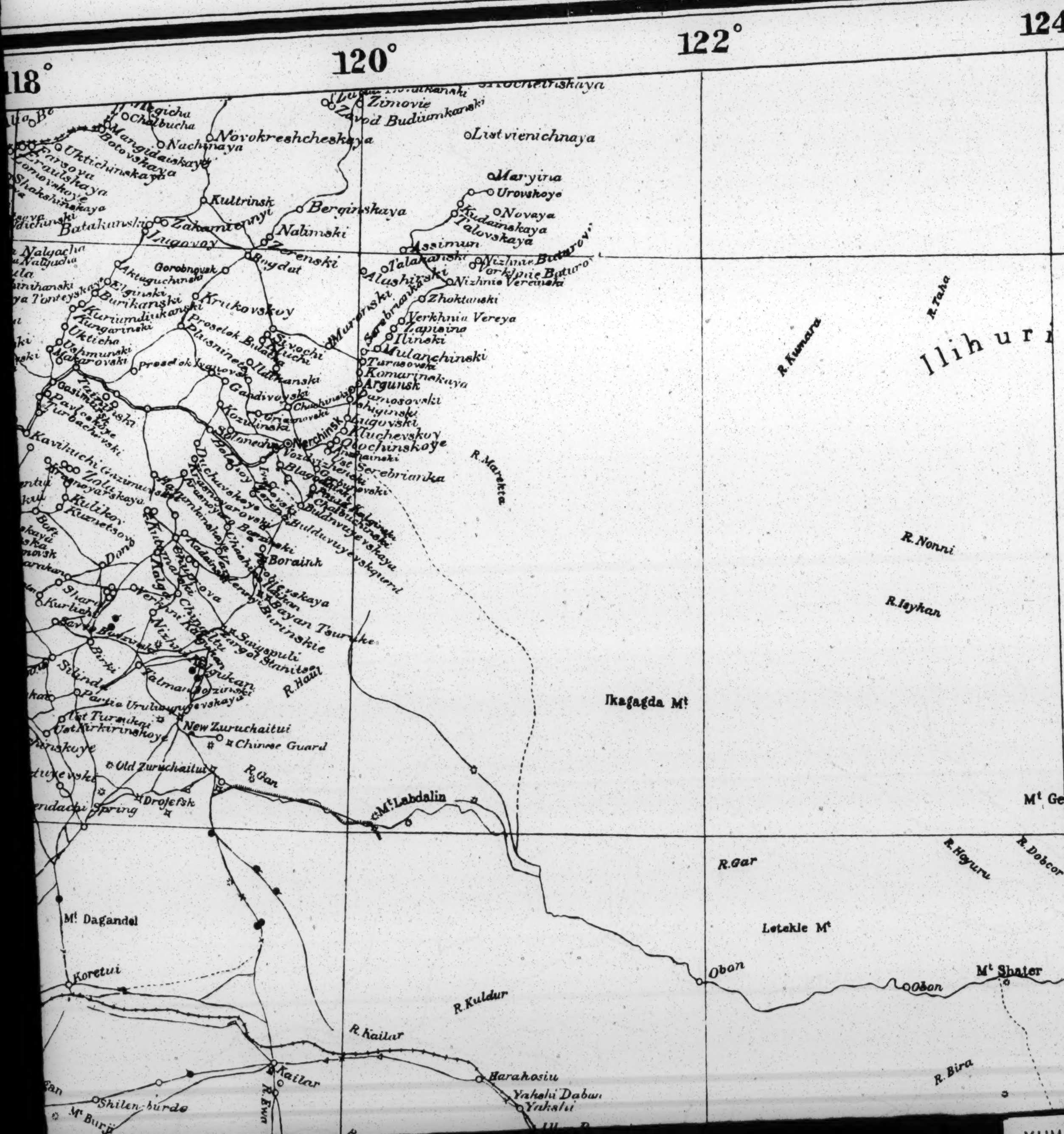
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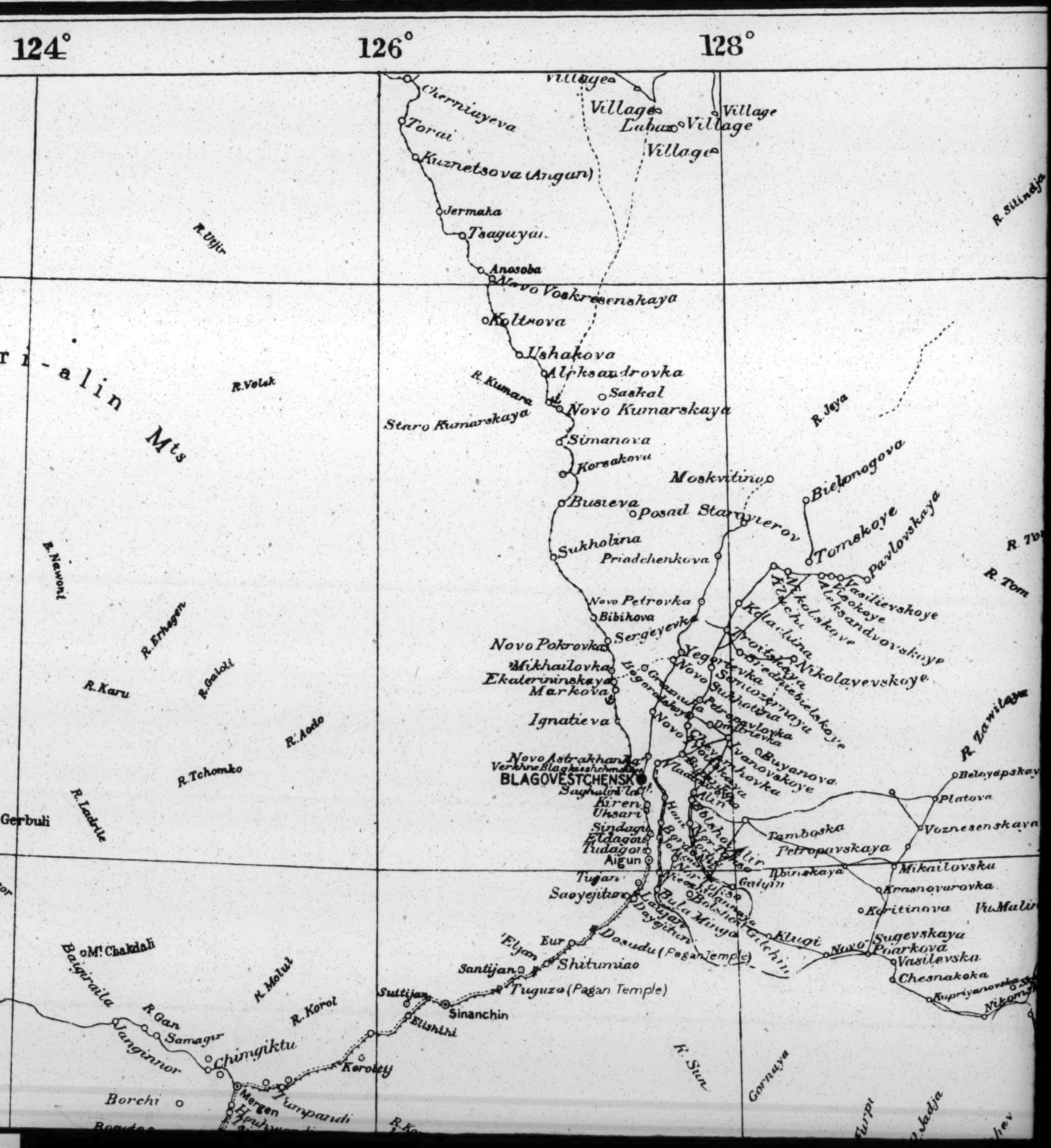

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Novo Kumarskaya
R. Kumara
Staro Kumarskaya
Simanova
Korsakova
Busieva
Posad Staroverov
Moskvitino
Sukholina
Priadchenkova
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Nikolskaye
Kolachina
Troitskaya
Sredne-bielskoye
Nikolayevskoye
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Yegorievka
Ignatieva
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Tambovka
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Ilyinskaya
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Santijan
Tuguza (Pagan Temple)
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Chimgiktu
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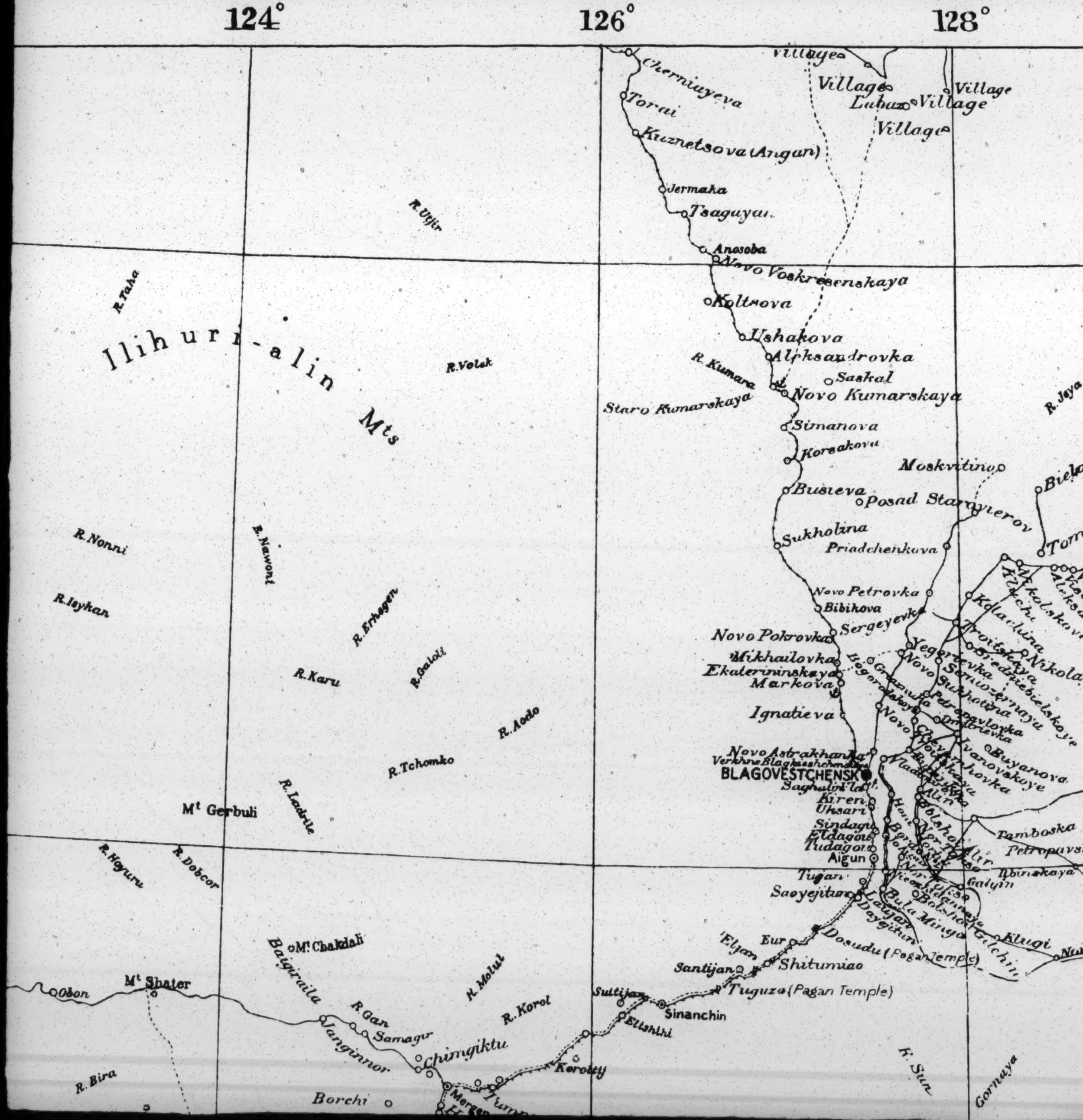
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Klugi
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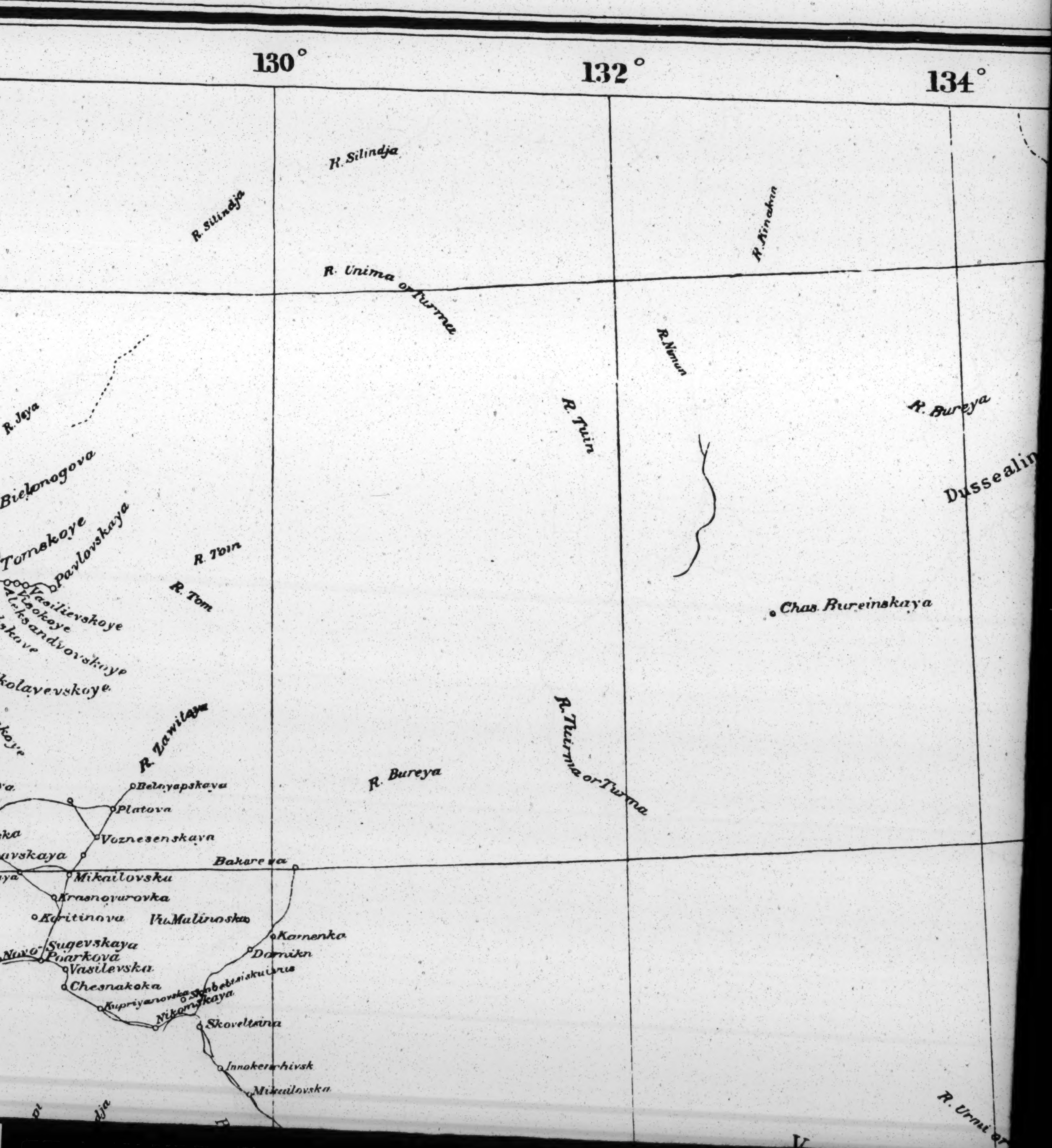
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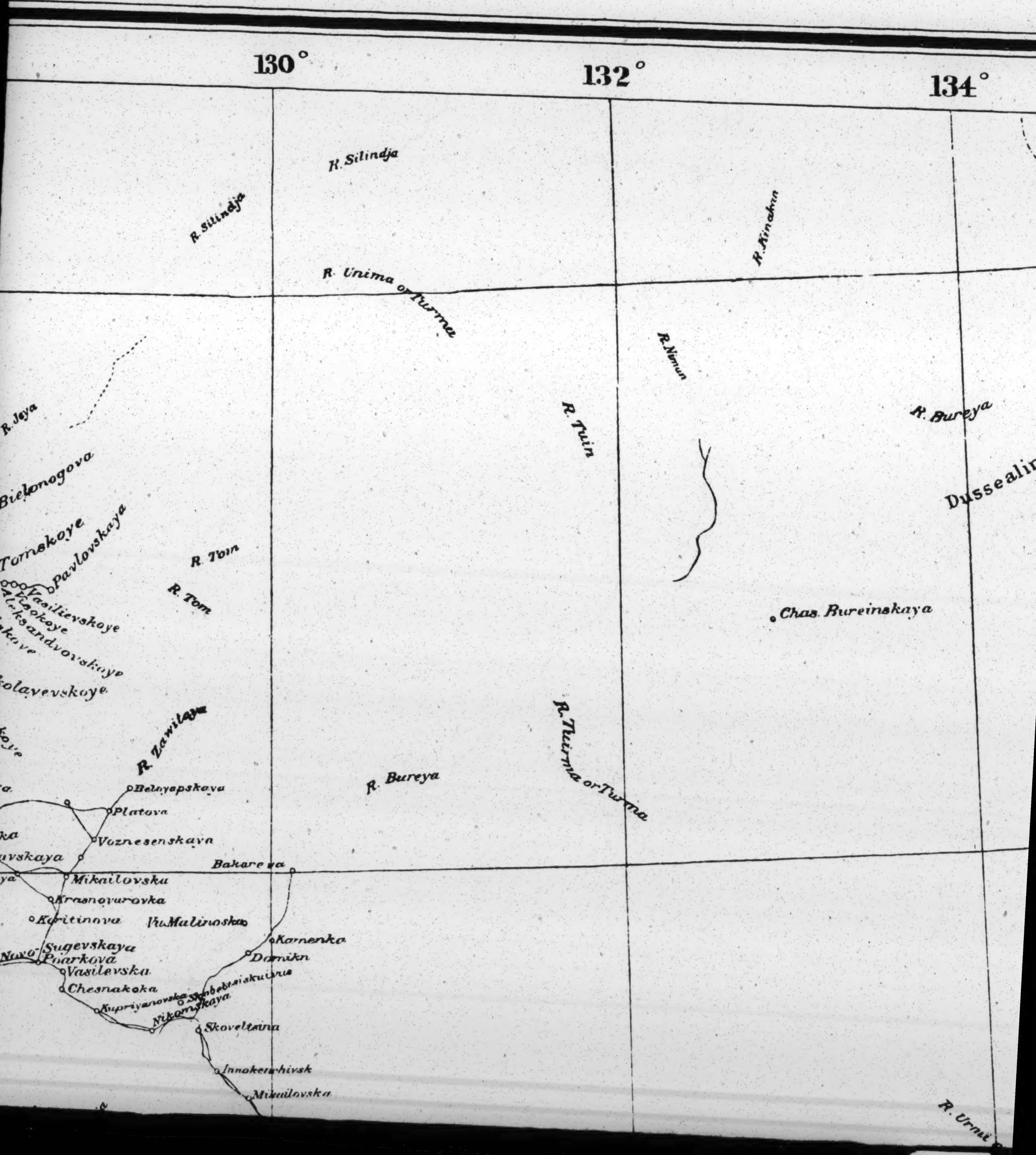
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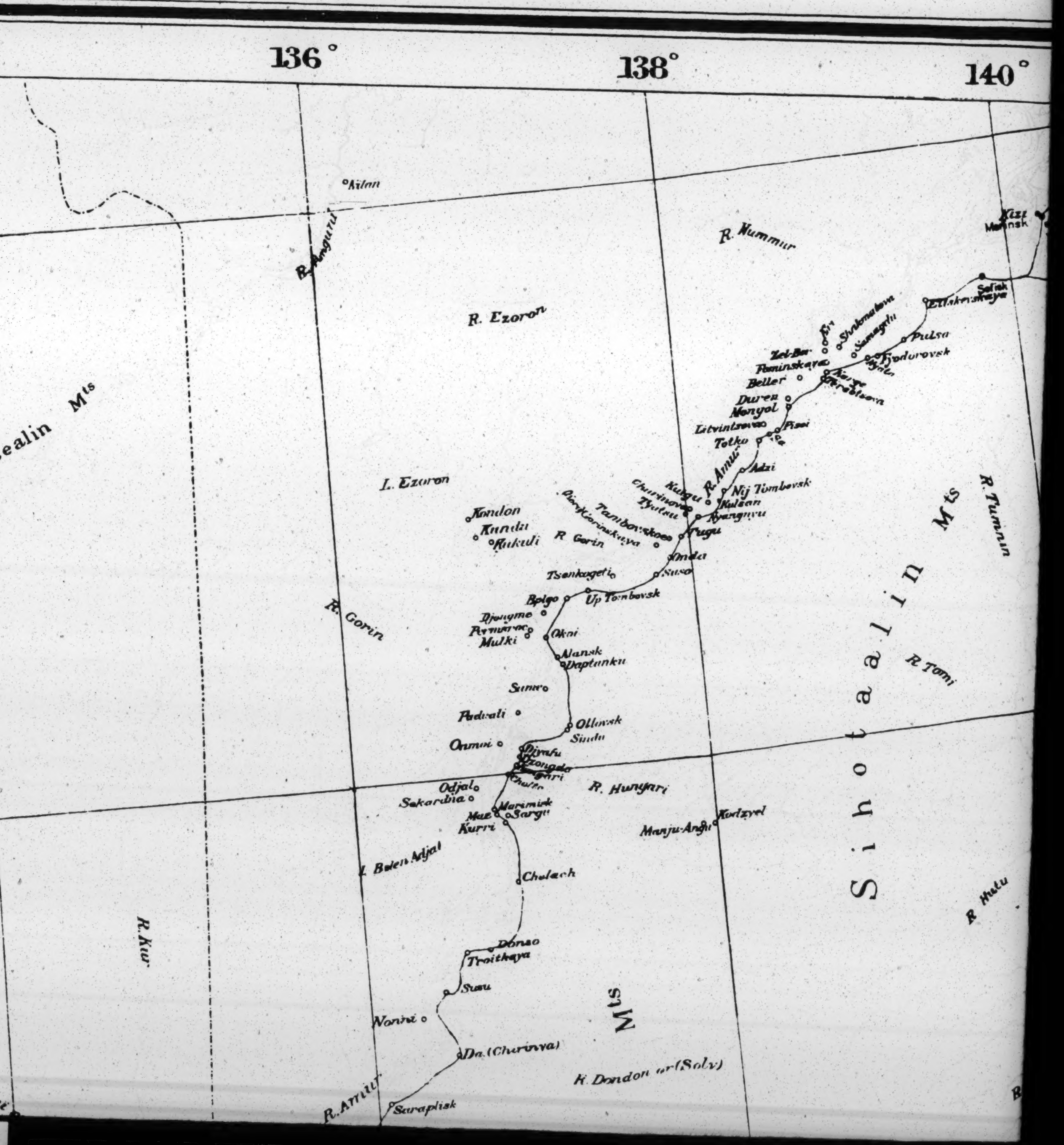
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Dzonga
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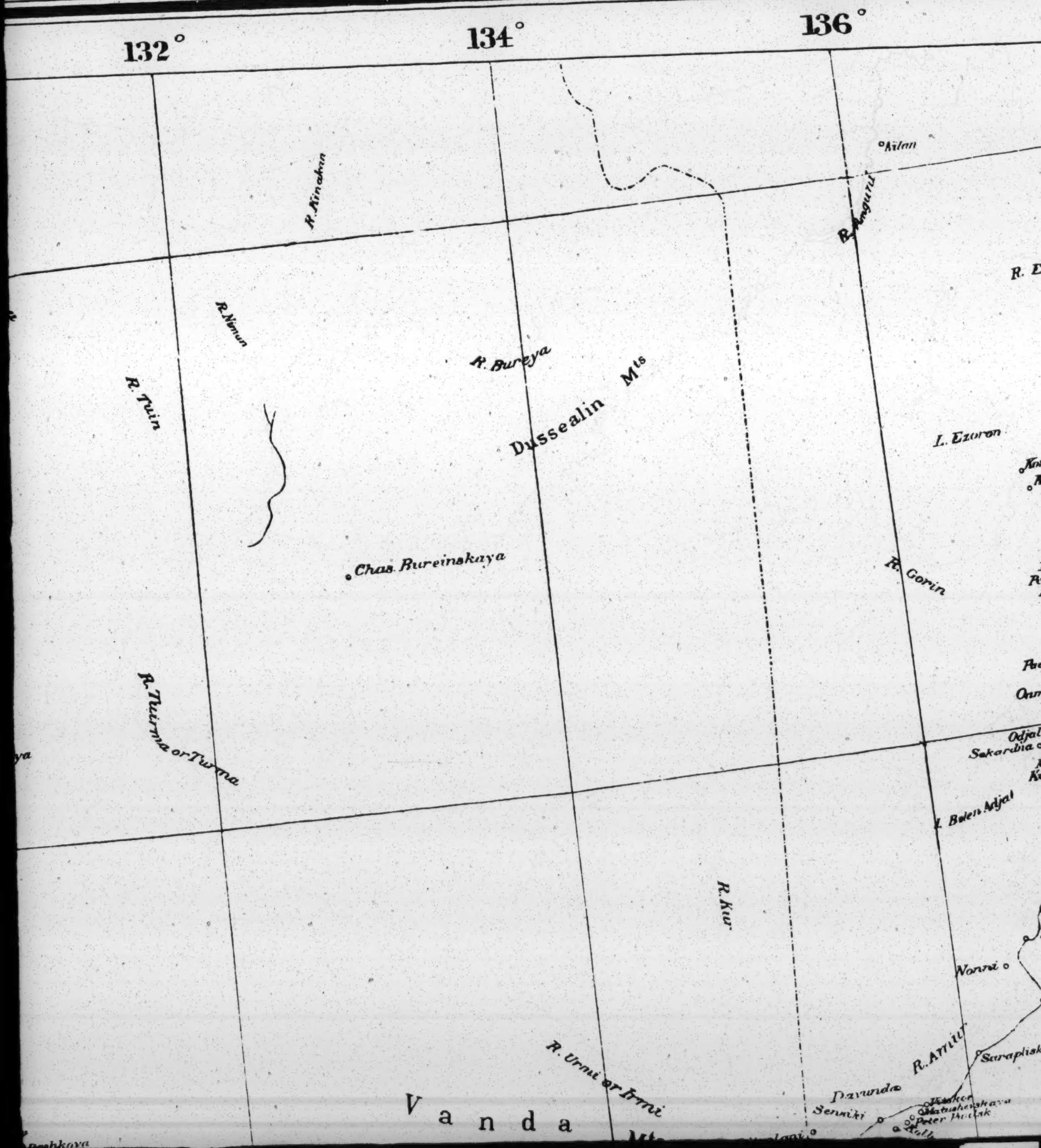
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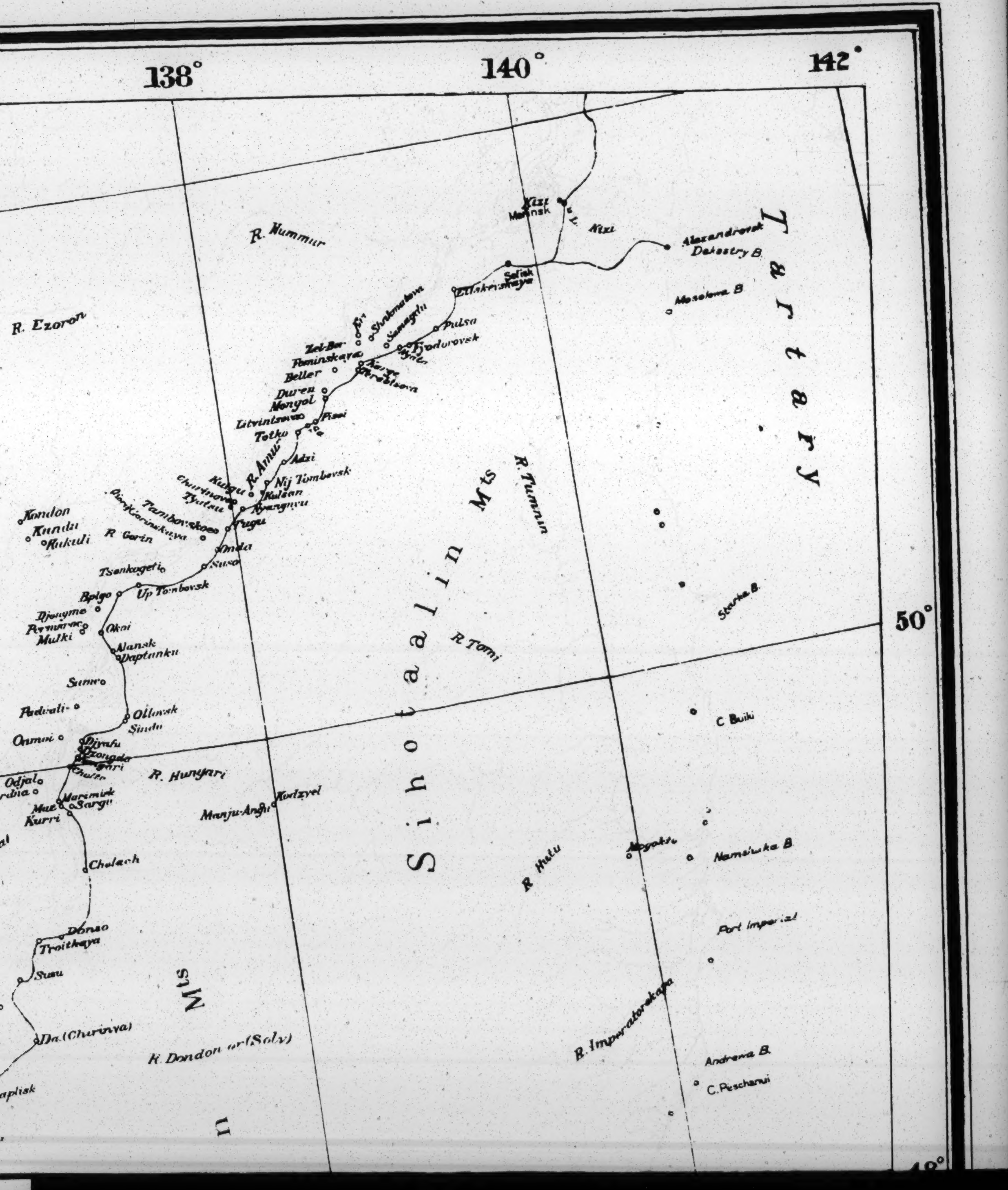
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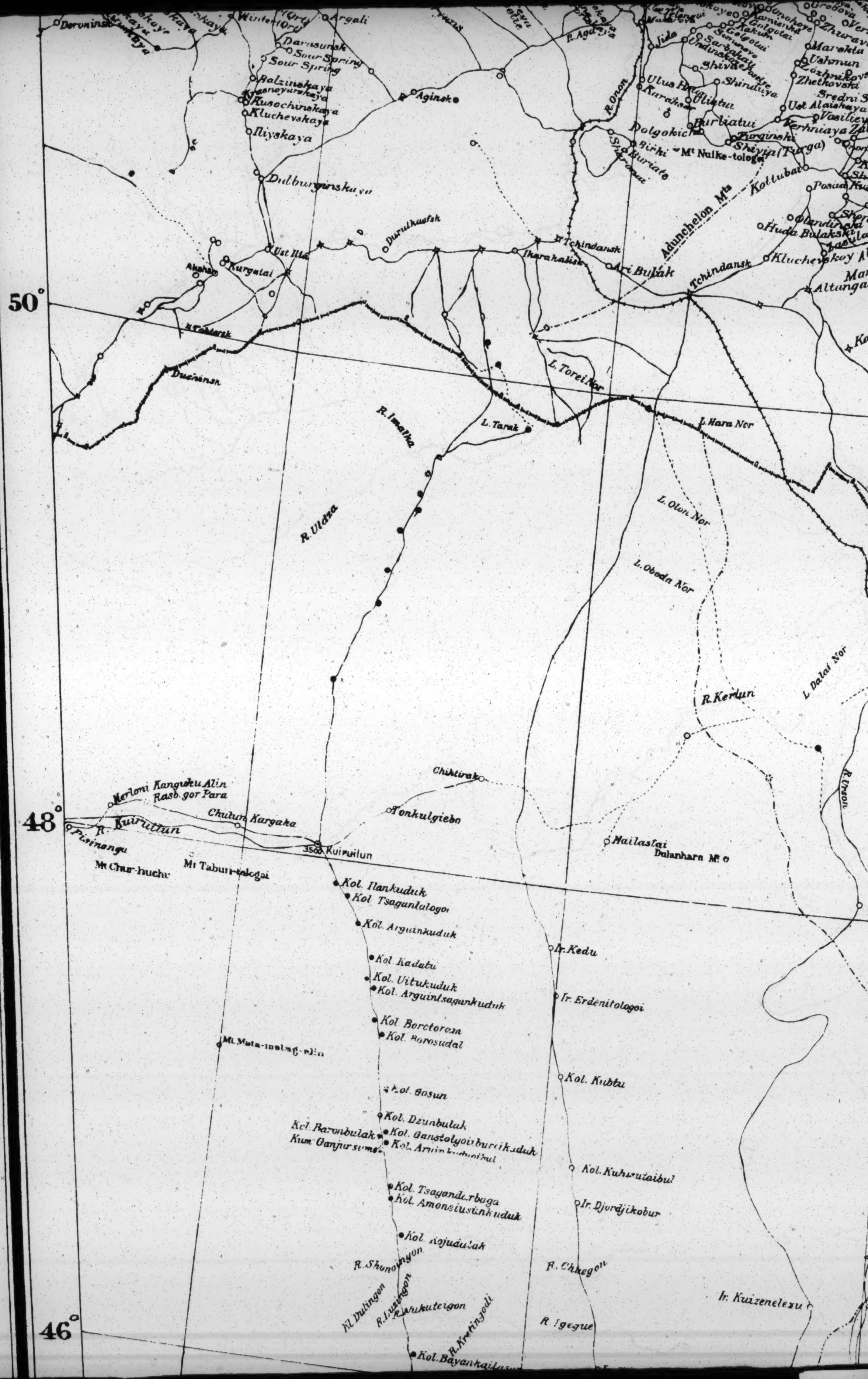
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Iliyskaya
Aginsk
Dulburginskaya
Durulkuefsk
Ust Ilia
Kurgatai
Akshan
Tchindansk
Iharakalisk
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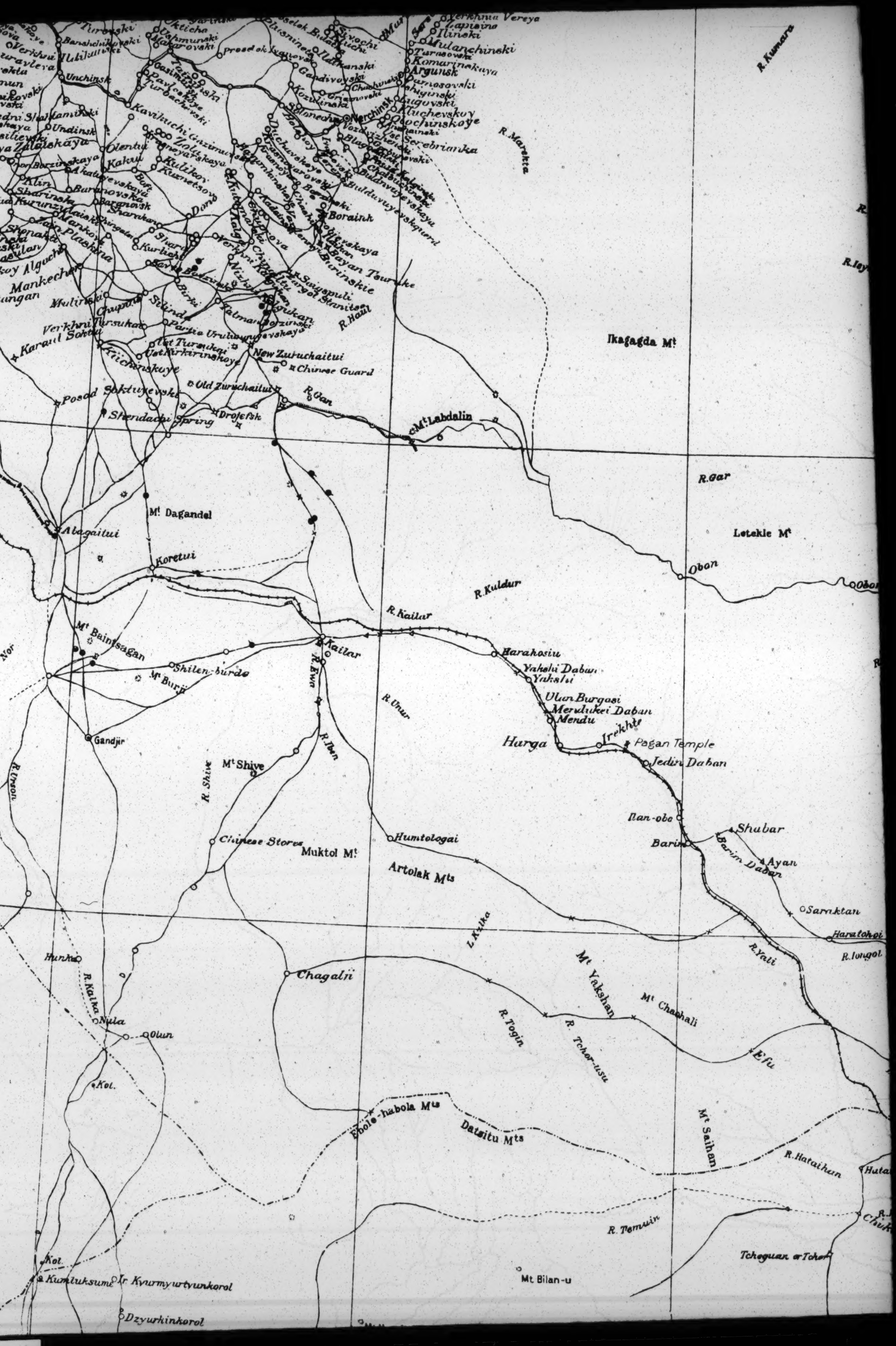
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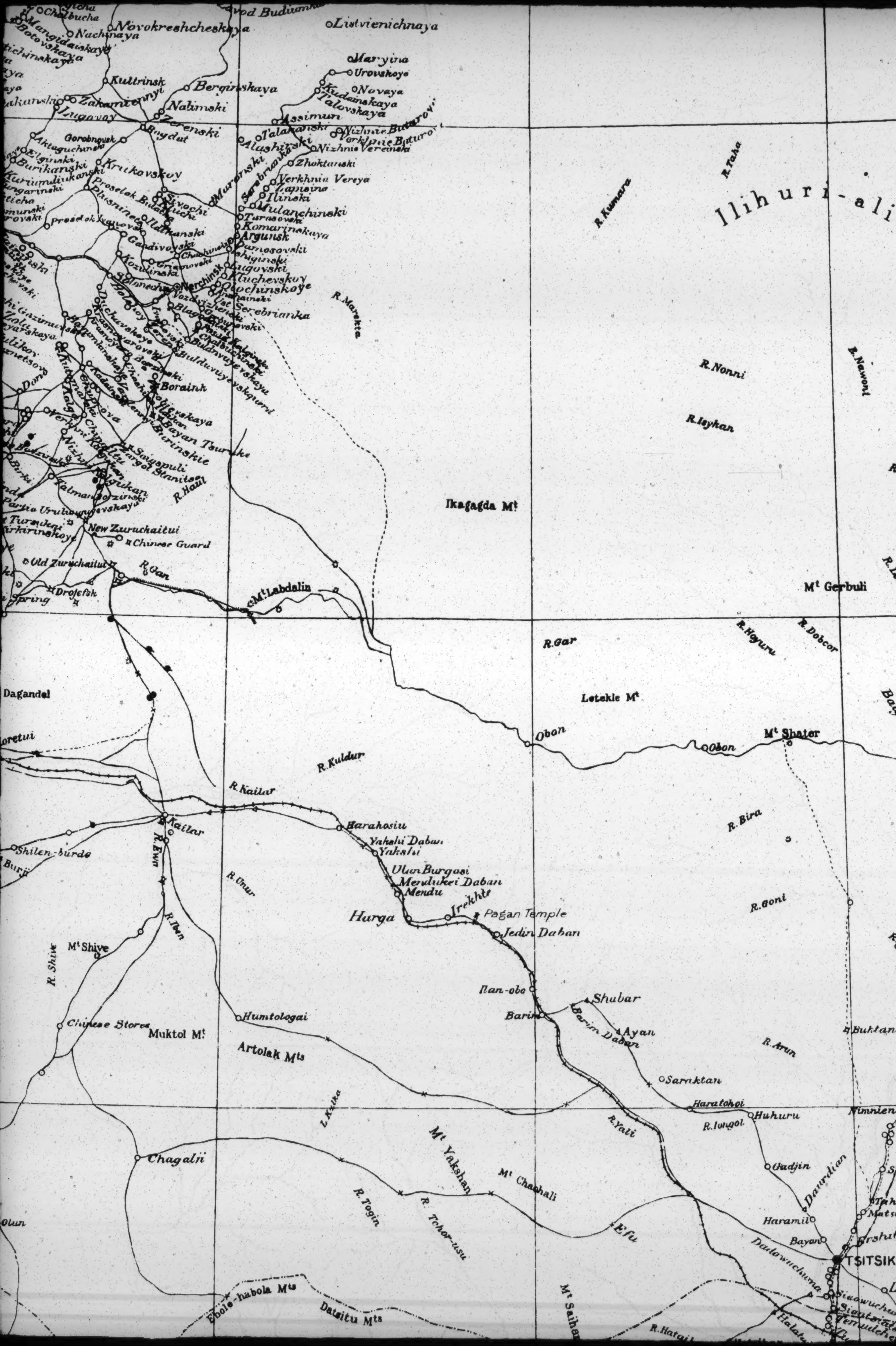
Irekhte
Pagan Temple
Jedin Daban
Ilan-obo
Barim
Shubar
Barim Daban
Ayan
Saraktan
Haratohoi
R. longol
R. Ewa
R. Unur
R. Iben
Mt Shive
R. Shive
R. Urson
Chinese Stores
Muktol Mt
Humtologai
Artolak Mts
L. Kaika
Mt Yakshan
Mt Chaohali
R. Yali
Hunho
R. Kaika
Chagalri
Nula
Olun
Kol.
R. Togin
R. Tchor-tsu
Efu
Ebole-habola Mts
Datsitu Mts
Mt Saihan
R. Hataihan
R. Temuin
Tcheguan or Tchor
Mt Bilan-u
Kol.
Kumluksume
Ir. Kvurmyurtvunkorol
Dzyurhinkorol
Nor
UM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Novaya
Kudainskaya
Talovskaya
Kultrinsk
Berginskaya
Zakamennyi
Nalimski
Lugovoy
Zerenski
Assimun
Talakanski
Alashi
Nizhnie Buturov
Verkhnie Buturov
Nizhnie Vereinski
Bogdat
Gorobnousk
Aktuguchinski
Elginski
Burikanski
Krukovskoy
Zhoktanski
Verkhnia Vereya
Zapisino
Ilinski
Mulanchinski
Serebriankaski
Muranski
Sivochi
Turasovski
Komarinskaya
Argunsk
Gandivovski
Kozulinski
Nerchinsk
Lugovski
Kluchevskoy
Obochinskoye
Ust Serebrianka
Buldunvuyevskaya
Borainsk
Bayan Tsurike
Burinskie
Suigspuli
Targol Stanitse
R. Haul
New Zuruchaitui
Chinese Guard
Old Zuruchaitui
Drojefsk
Spring
R. Gan
Mt Labdalin
Dagandel
R. Kumara
R. Taha
Ilihuri-ali
R. Marekta
R. Nonni
R. Isykan
R. Nawont
Ikagagda Mt
Mt Gerbuli
R. Gar
R. Hoyuru
R. Dobcor
Letekle Mt
Obon
Obon
Mt Shater
R. Kuldur
R. Kailar
Kailar
R. Ewa
Shilen-burde
Harahosiu
Yakshi Daban
Yakshi
Ulan Burgasi
Mendukei Daban
Mendu
Hurga
Irekhte
Pagan Temple
Jedin Daban
R. Bira
R. Onur
R. Iben
R. Shive
Mt Shive
R. Goni
Ilan-obe
Shubar
Barin
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Ayan
Huntologai
Chinese Stores
Muktol Mt
Artolak Mts
R. Arun
Buktan
Saraktan
Haratohoi
Huhuru
R. Iongol
Nimnien
R. Yati
L. Kzika
Mt Yakshan
Mt Chaohali
Chagalji
Gadjin
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Haramil
Bayan
TSITSIKAR
R. Togin
R. Tchor-usu
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Siauwuchen
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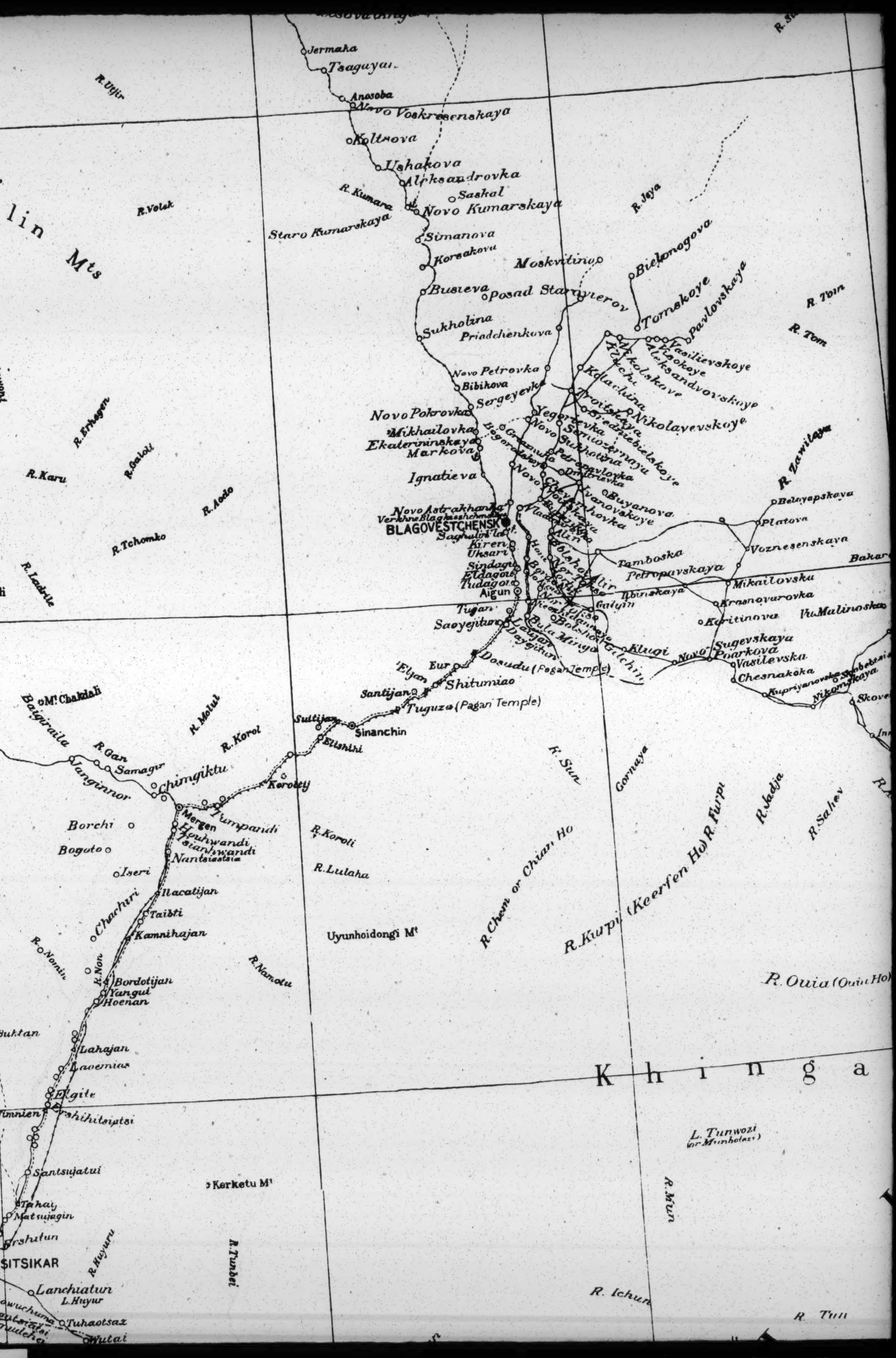
Temudeher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Koltsova
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Aleksandrovka
R. Kumara
Saskal
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Mts
R. Volsk
Novo Kumarskaya
Staro Kumarskaya
Simanova
R. Jaya
Korsakova
Moskvitino
Bielonogova
Busieva
Posad Starovierov
Tomskoye
Pavlovskaya
R. Toin
Sukholina
Priadchenkova
R. Tom
Vasilievskoye
Novo Petrovka
Bibikova
Sergeyevka
Vladkoye
Aleksandrovskoye
Kolachina
Nikolskoye
Troitskaya
Novo Pokrovka
Yegorevka
Srednebielskoye
Nikolaevskoye
R. Erhagen
Mikhailovka
Ekaterininskaya
Markova
Novo Sukhotina
Semiozernaya
Grasnuha
Bogorodskoye
Petropavlovka
Dmitrievka
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R. Karu
R. Galoll
Ignatieva
Novo
Chesnokova
Ivanovskoye
Buyanova
R. Aodo
Novo Astrakhanka
Verkhne Blagovieshchensk
Beloyapskaya
BLAGOVESTCHENSK
Platova
Saghalin
Kiren
Uksari
Vladimirovka
Alin
R. Tchomko
Voznesenskaya
Sindagu
Eldagou
Tudagou
Aigun
Bolshaya Alir
Tamboska
Bakar
Petropavskaya
R. Ladrile
Mikailovska
Ilbinskaya
Krasnoyarovka
Galyin
Tujan
Saoyejitun
Raijan
Daygitun
Bula Minga
Bolshoi Gulchin
Karitinova
Vu Malinoska
Klugi
Novo
Sugevskaya
Poarkova
Vasilevska
Chesnakoka
Eur
Elyan
Dosudu (Pagan Temple)
Kupriyanovska
Nikomskaya
Skovo
Santijan
Shitumiao
Tuguzu (Pagan Temple)
Mt Chakdali
Baigiraila
R. Molul
Sultijan
Sinanchin
Elishihi
R. Korol
R. Gan
Samagir
Janginnor
Chimgiktu
Korotij
R. Sun
Gornaya
Mergen
Tumpandi
Borchi
Houhwandi
Tsianhwandi
Nantsiasztsia
Bogoto
R. Koroli
R. Chem or Chian Ho
R. Kupi (Keerfen Ho) R. Furpi
R. Jadja
R. Sahev
Iseri
R. Lulaha
Ilacatijan
Chachiri
Taibti
Kamnihajan
Uyunhoidongi Mt
R. Nomin
R. Non
R. Namolu
Bordotijan
Yangul
Hoenan
R. Ouia (Ouia Ho)
Buhtan
Lahajan
Laoemiao
Khinga
Elgite
Ershihitsiptsi
Imnien
L. Tunwozi (or Munholazi)
Santsujatui
Kerketu Mt
R. Mun
Tahai
Matsujagin
Urshitun
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SITSIKAR
Lanchiatun
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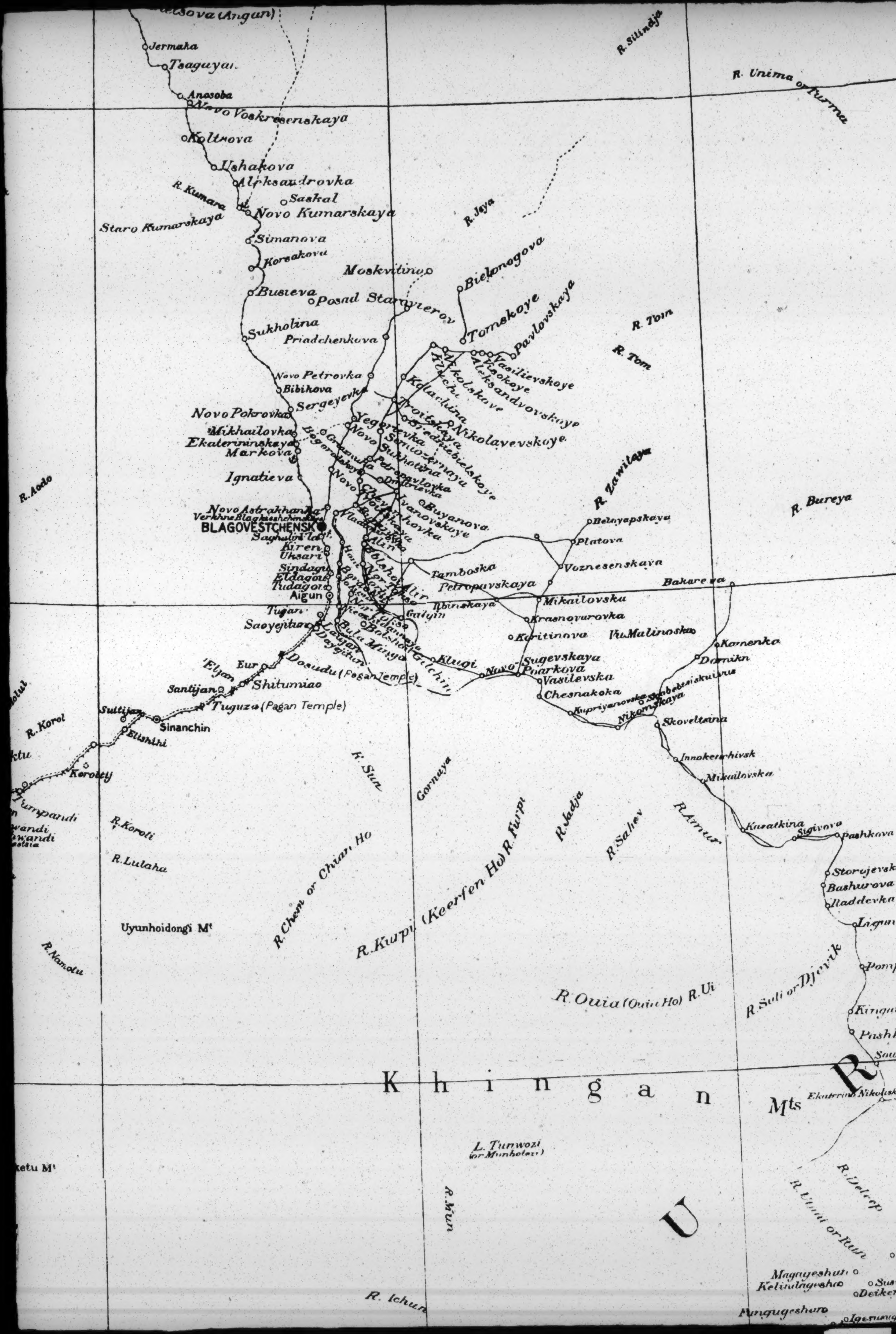

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Staro Kumarskaya
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Bielonogova
Busieva
Posad Staroverov
Tomskoye
Pavlovskaya
Sukholina
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R. Silindja
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R. Tom
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Nikolskoye
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Troitskaya
Nikolayevskoye
Yegorievka
Novo Semozemaya
Sriedniebielskoye
Petropavlovka
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Buyanova
Ivanovskoye
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R. Aodo
Novo Astrakhanka
Verkhne Blagovestchenskaya
BLAGOVESTCHENSK
Saghalien
Kiren
Uksari
Sindagu
Eldagou
Tudagou
Aigun
Tugan
Saoyejitun
Belayapskaya
Platova
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Tamboska
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Bakareva
Ibbinskaya
Mikailovska
Krasnovarovka
Koritinova
Vu Malinoska
Kamenka
Gaiyin
Bolshoi
Bula Minya
Dayjitun
Klugi
Gilchin
Novo Sugevskaya
Poarkova
Vasilevska
Chesnakoka
Damikn
Kupriyanovska
Nikomskaya
Skoveltsina
Eur
Elyan
Dosudu (Pagan Temple)
Shitumiao
Santijan
Tuguzu (Pagan Temple)
Suttijan
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Koroteij
Tumpandi
R. Koroli
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R. Sun
Gornaya
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Mikailovska
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Storojevsk
Bashurova
Raddevka
Ligun
Pomp
Kingu
Pashk
Sou
R. Jadja
R. Sahev
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R. Chem or Chian Ho
R. Kurpi (Keerfen Ho)
Uyunhoidongi Mt
R. Namolu
R. Ouia (Ouia Ho) R. Ui
R. Suli or Djevik
Khingan Mts
Ekaterina Nikolsk
L. Tunwozi (or Munhotezi)
ketu Mt
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Deiker
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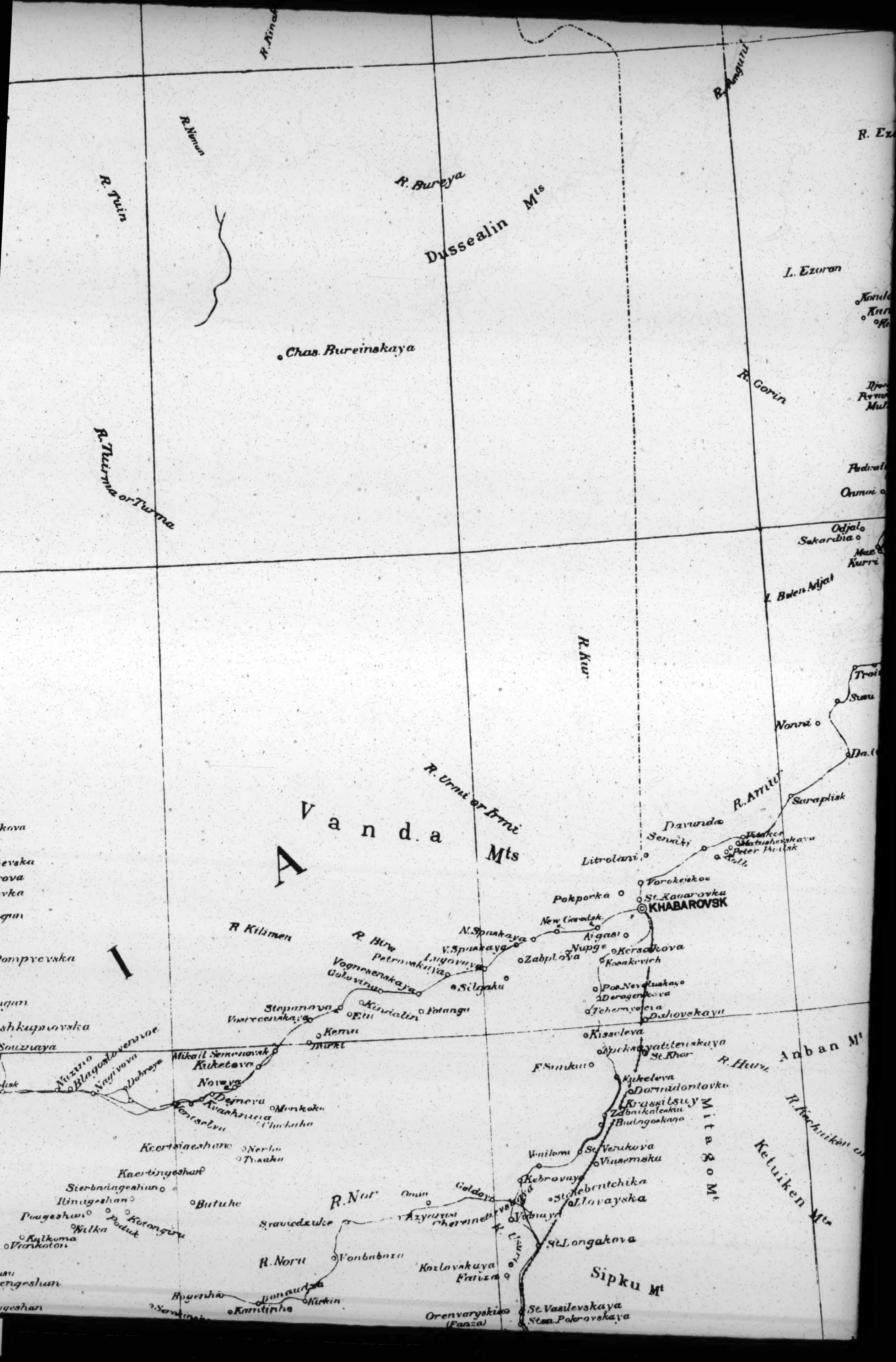
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Susu
Nonni
Da.
R. Urmi or Irmi
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Litrolani
Vorokeiskoe
Pokporka
St. Kazarovka
KHABAROVSK
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Zabplova
Lugovaya
Petrovskuya
Vognesenskaya
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R. Bira
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Vosrecenskaya
Kindalin
Etu
Fotangu
Kemu
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Deragenkova
Tchernyeva
Dahovskaya
Kisseleva
Spokoyatitenskaya
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R. Huru
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Kukeleva
Dormidontovka
Krassilsuy
Zabaikalesku
Bulgoskaya
Mitago Mt
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Ketuiken Mts
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Kebrovaya
St. Kebentchika
Llovayska
Goldora
Omin
Azyrussi
Chervinetiva
Vobnaya
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St. Longakova
Sipku Mt
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Fatiza
Orenvaryski
(Fanza)
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Stsa Pokrovskaya
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evska
rova
vka
gun
Dompreyska
gun
shkupnovska
Souznaya
lisk
Nuzino
Blagoslovennoe
Nagivova
Dobraya
Mikail Semenovsk
Kuketova
Novaya
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Chchaha
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Ilinageshan
Butuhe
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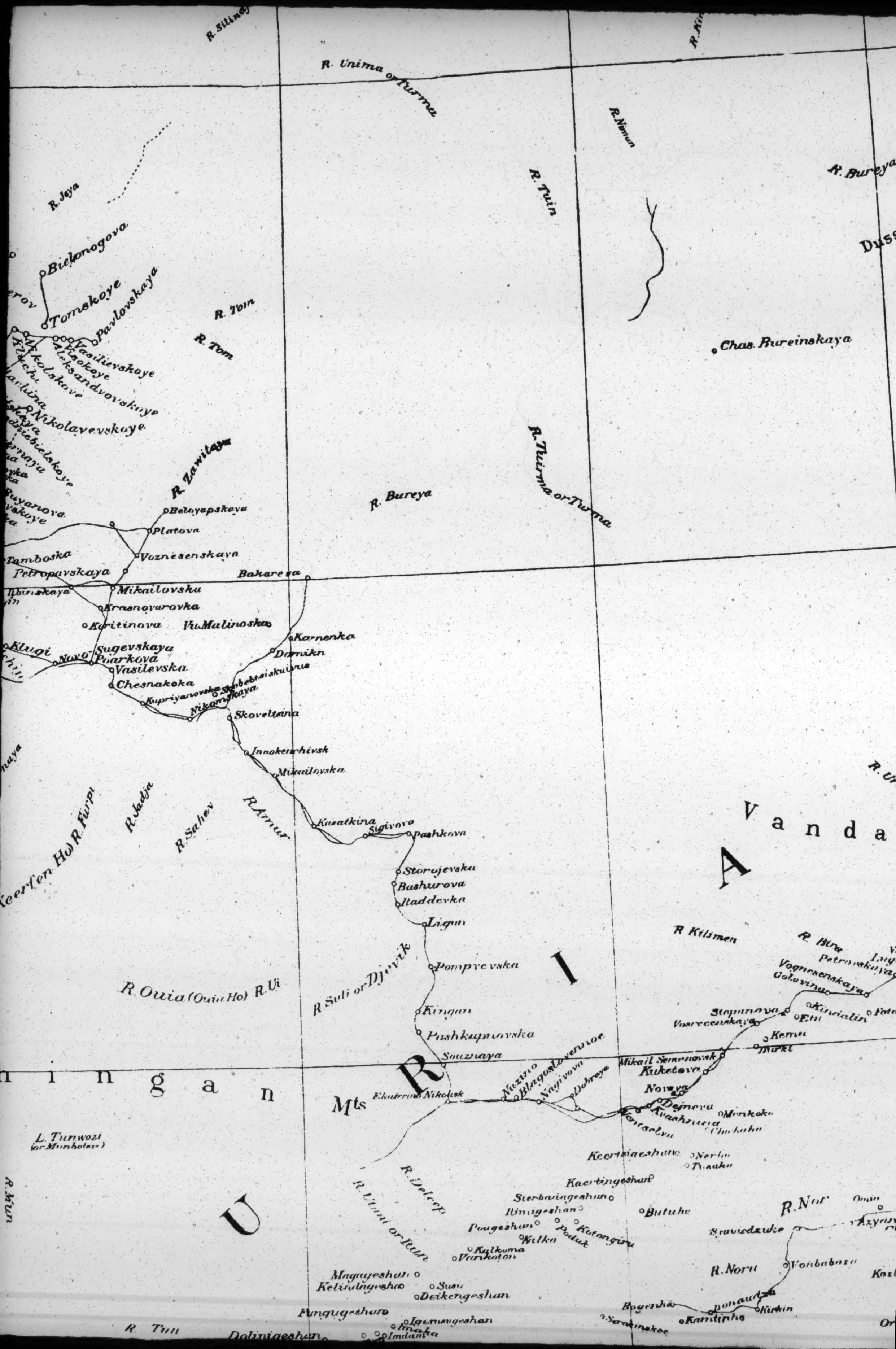
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Aleksandvovskoye
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R. Sahev
R. Amur
Keerfen Ho) R. Furpi
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Bashurova
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Ligun
Vanda
A
R. Kilimen
R. Hira
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Vognesenskaya
Golovina
Pomprevska
I
R. Ouia (Ouia Ho) R. Ui
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Pashkupnovska
Stepanova
Vosrecenskaya
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Etti
Kemu
Dirkt
Souznaya
R
Mikail Semenovsk
Kuketova
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Dejneva
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Kentselva
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Chuhaho
Khingan Mts
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Nagivova
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Nerlo
Tsaaku
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R. Delcep
R. Ulmi or Kun
R. Nor
Omin
Stierbaingeshan
Ilinageshan
Butuhe
Pougeshun
Kalka
Poduk
Kotongiru
Kulkoma
Varikoton
Sraviedzuke
Vonbabaza
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R. Mun
U
Magayeshan
Kelindayeshan
Susu
Deikengeshan
Fungugeshan
Igesungeshan
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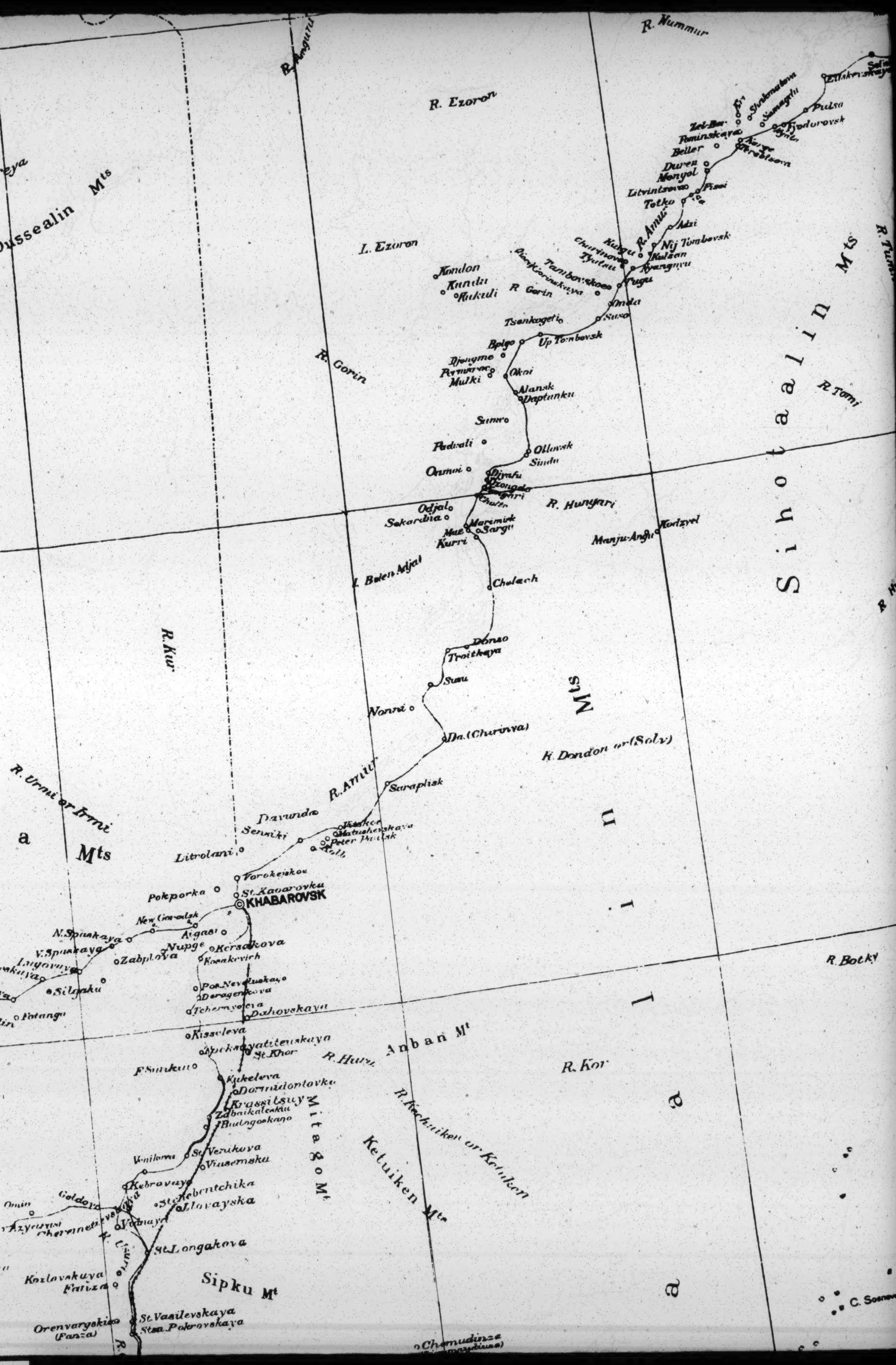
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Fominskaya
Beller
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Litvintsevo
Totko
Pisei
Adzi
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Kulgu
Kulsan
Tyulau
Tambovskoe
Tugu
Onda
Suso
Kondon
Kundu
Kukuli
R. Gorin
Tsenkageti
Bolgo
Up Tombovsk
Djongme
Okoi
Mulki
Alansk
Daptunku
R. Gorin
R. Tomi
Sunno
Padvali
Ollovsk
Sindu
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Djimfu
Odjal
Sakardbia
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Marimisk
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Sargu
Kurri
Manju-Angu
Kodzyel
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Cholach
R. Kur
Donso
Troitskaya
Susu
Nonni
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R. Amur
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Davunda
Senniki
Malyshevskaya
Peter Pavlovsk
Litrolani
Vorokejskoe
Pokporka
St. Kazarovka
KHABAROVSK
New Gorodsk
Aigasi
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Korsakova
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Silgaku
Fotangu
Pos. Nevelskaya
Deragenkova
Tchernyaeva
Dahovskaya
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St. Khor
R. Huru
R. Kor
F. Sunkun
Kukeleva
Dormidontovka
Krassitsuy
Zabaikalskaya
Budagoskaya
Mitago Mt
R. Kechuiken or Ketuiken
Ketuiken Mts
Venikova
St. Venukova
Viasemsku
Kebrovaya
Omin
Goldov
St. Lebentchika
Llovayska
Cheremetievskaya
Vabiaya
R. Usuri
St. Longakova
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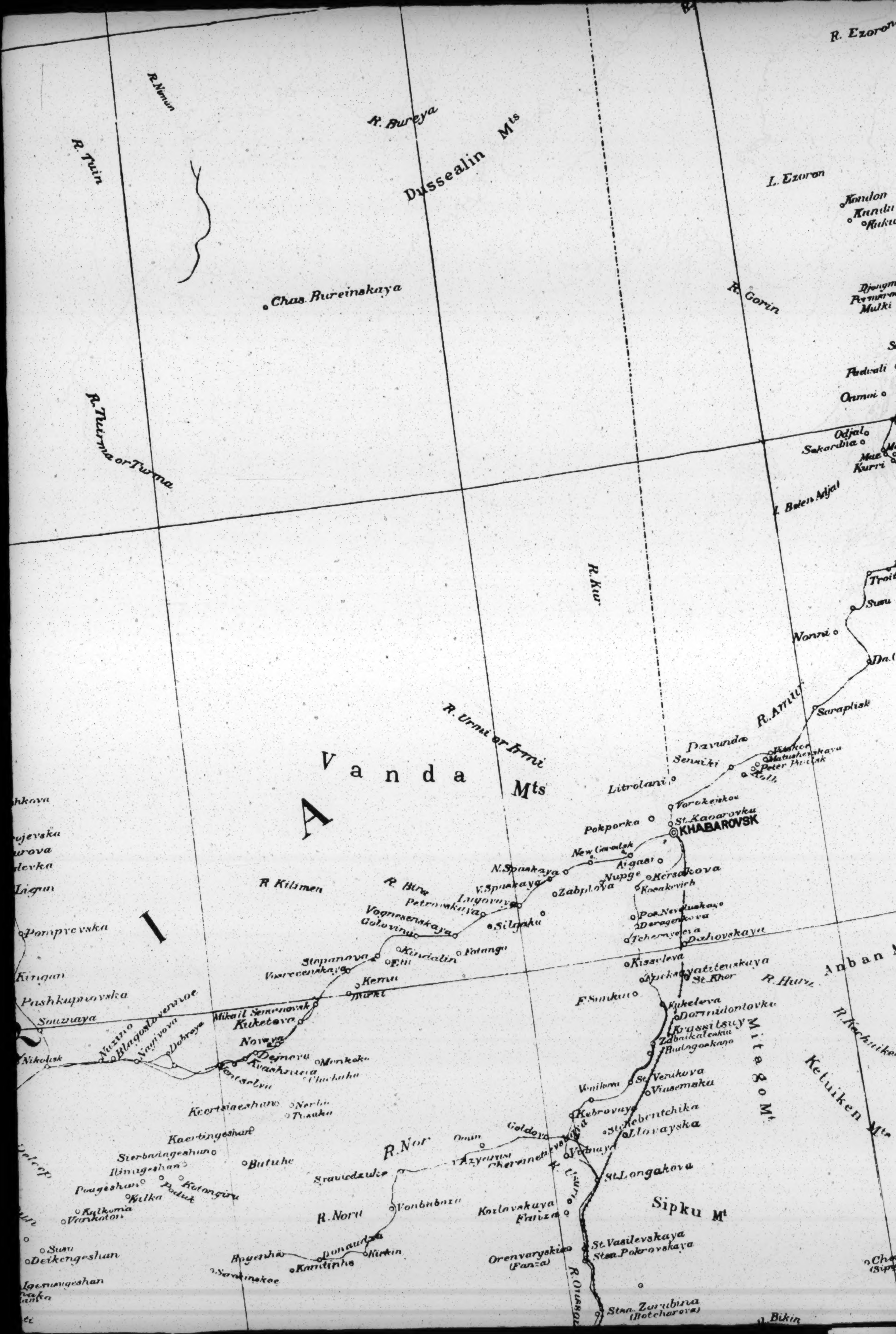
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Onmi
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Sakarbia
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Kurri
L. Bolen Adjal
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Davunda
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Matushevskaya
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Vorokeiskoe
St. Kazarovka
Pokporka
KHABAROVSK
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V. Spasskaya
Zabplova
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Deragenkova
Tchernyaeva
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Silgnku
Kindalin
Fotanga
Stepanova
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Etti
Kemu
Murki
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Dormidontovka
Krassilsuy
Zabaikalskiu
Bulgoskaya
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ojevska
urova
devka
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Pomprevska
Kingan
Pashkupnovska
Souznaya
Nikolsk
Nuzino
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Nagivova
Dobraya
Mikail Semenovsk
Kuketova
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St. Venikova
Viasemska
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Nerbu
Tusaku
Kebrovaya
Stebebntchika
Llovayska
Kaertingeshan
Goldovo
Sterbaingeshan
Ilinageshan
Butuhe
R. Nor
Omin
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Chervinetlevska
Vodnaya
Sraviedzuke
Pougeshan
Kotongiru
Poduk
Kilka
Kalkomia
Vankoton
R. Noru
Vonbuboza
Kozlovskaya
Fatiza
R. Ussuri
St. Longakova
Sipku Mt
Susu
Deikengeshan
Bogenha
Donaudza
Kirkin
Kamtinhe
Sandinskoe
Orenvaryskie
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(Botcharova)
R. Bikin

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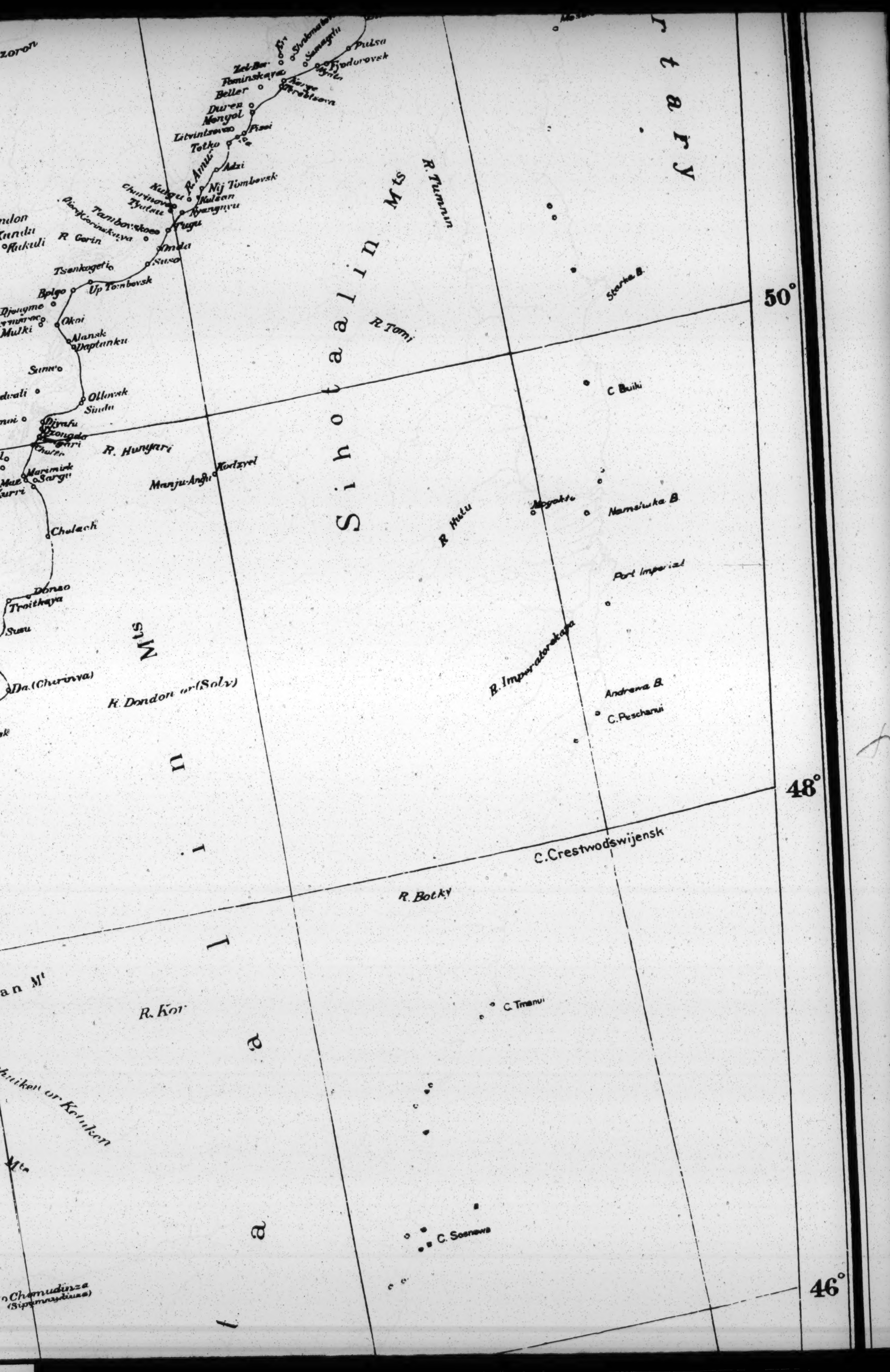

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Mongol
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Shakmakov
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Pulsa
Fjodorovsk
Kerga
Kerebtsova
R. Amur
Adzi
Nij Tombovsk
Kulsan
Kyangnyu
Kulgu
Churinova
Tyutsu
Tambovskoee
Diorgkorinskaya
Tugu
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Rukuli
R. Gorin
Tsankogeti
Up Tombovsk
Bolgo
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Daptanku
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Ollovsk
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Dirafu
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Gari
Chutze
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Sargu
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R. Hungari
Manju-Angu
Kodzyel
Chelach
Donzo
Troitskaya
Susu
Mts
Da (Churinva)
R. Dondon or (Solv)
Sihotaalin Mts
R. Tumnin
R. Tomi
R. Hulu
R. Imperatorskaya
R. Botky
R. Kor
an Mt
chuiken or Kotuiken
Mts
Chemudinza (Sipamoydinza)
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Starke B.
C. Buiki
Mogohto
Namsiuka B.
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C. Crestwodswijensk
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C. Sosnowa
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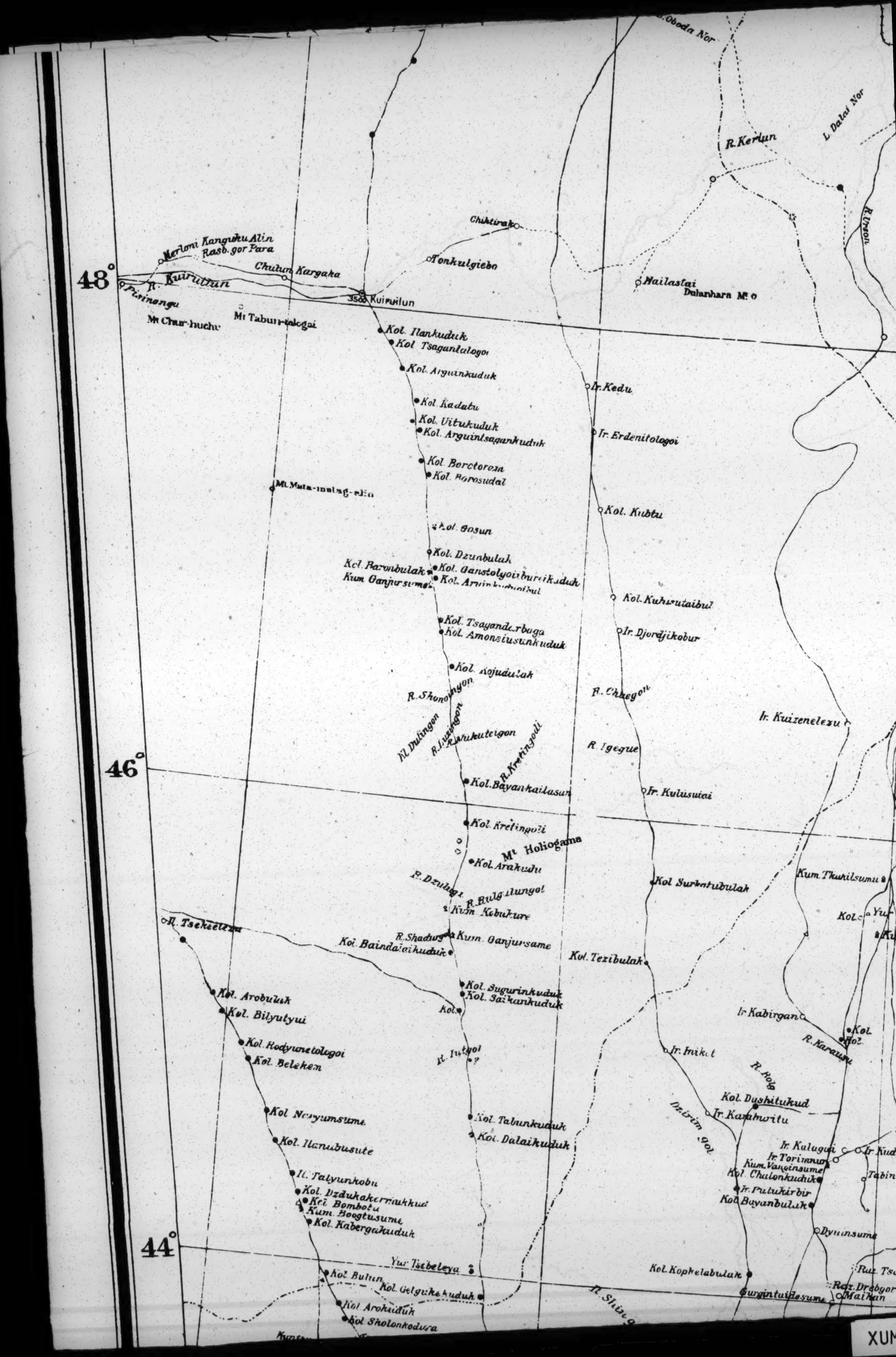
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48°
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Chulun Kargaka
Pisinenga
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Mt Taburr-tologai
Kol. Ilankuduk
Kol. Tsaganlalogoi
Kol. Arguinkuduk
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Kol. Kadatu
Kol. Uitukuduk
Kol. Arguintsagankuduk
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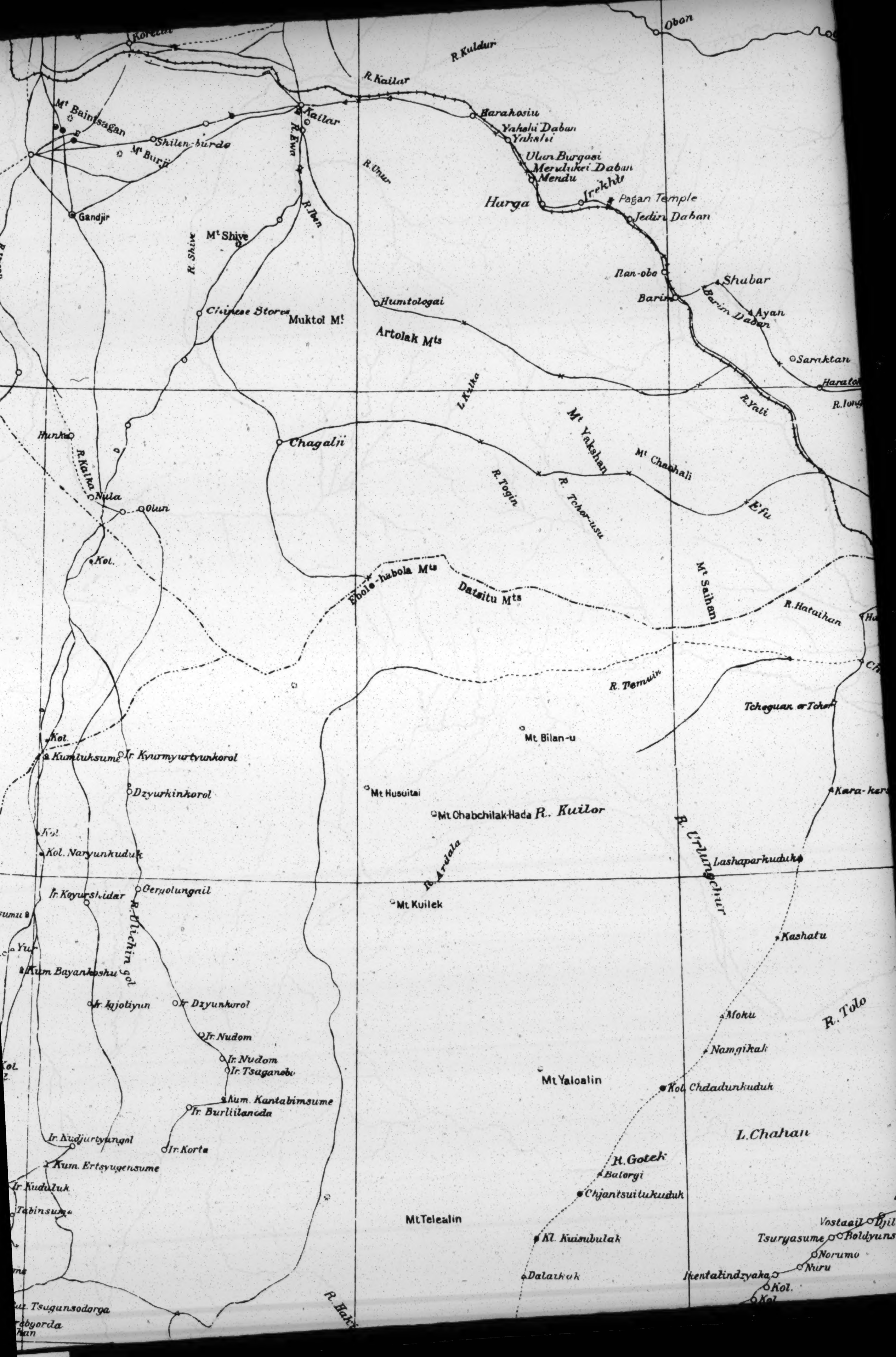
Kol. Borctorosn
Kol. Borosudal
Mt Muta-mulag-elin
Kol. Kubtu
Kol. Gosun
Kol. Dzunbulak
Kol. Baronbulak
Kol. Ganstolyoiburaikuduk
Kum Ganjursume
Kol. Arguinkuduoibul
Kol. Kuhusutaibul
Kol. Tsagandarbaga
Kol. Amonziusunkuduk
Ir. Djordjikobur
Kol. Kojudulak
R. Shunoingon
R. Chzegon
Fl. Dulingon
R. Luzingon
R. Rukuteigon
R. Kretingoli
Ir. Kuizenelezu
R. Igegue
46°
Kol. Bayankailasun
Ir. Kulusutai
Kol. Kretingoli
Mt Holiogama
Kol. Arakudu
R. Dzulug
R. Bulgalungol
Kol Surkatubulak
Kum. Tkuhilsumu
Kum. Kebukure
Yur
Kol.
Ir. Tsekeelezu
R. Shadug
Kum. Ganjursame
Kol. Baindaiaikuduk
Kol. Tezibulak
Kol. Arobuluk
Kol. Sugurinkuduk
Kol. Saikankuduk
Kol. Bilyutyui
Kol.
Ir Kabirgan
Kol.
Kol.
R. Karausu
Kol. Hodyunetologoi
R. Intyol
Ir. Inikat
Kol. Belekem
R. Bolg
Dzirim gol
Kol. Dushitukud
Ir. Karatoritu
Kol. Nesyumsume
Kol. Tabunkuduk
Kol. Dalaikuduk
Kol. Ilanubusute
Ir. Kalugai
Ir. Kud
Ir. Torimnur
Kum. Vanginsume
Kol. Chalonkuduk
Tabin
Ir. Talyunkobu
Kol. Dzdukakerriukkud
Kol. Bombotu
Kum. Boogtusume
Kol. Kabergakuduk
Ir. Putukirbir
Kol Bayanbulak
Dyunsume
44°
Yur Tsebeleya
Kol. Kophelabulak
Raz. Tsa
Raz. Drabgor
Kol. Butun
Kol. Gelgukekuduk
R. Shin
Gurgintuidzsume
Maikan
Kol Arokuduk
Kol. Sholonkodusa
XUN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Yakshi
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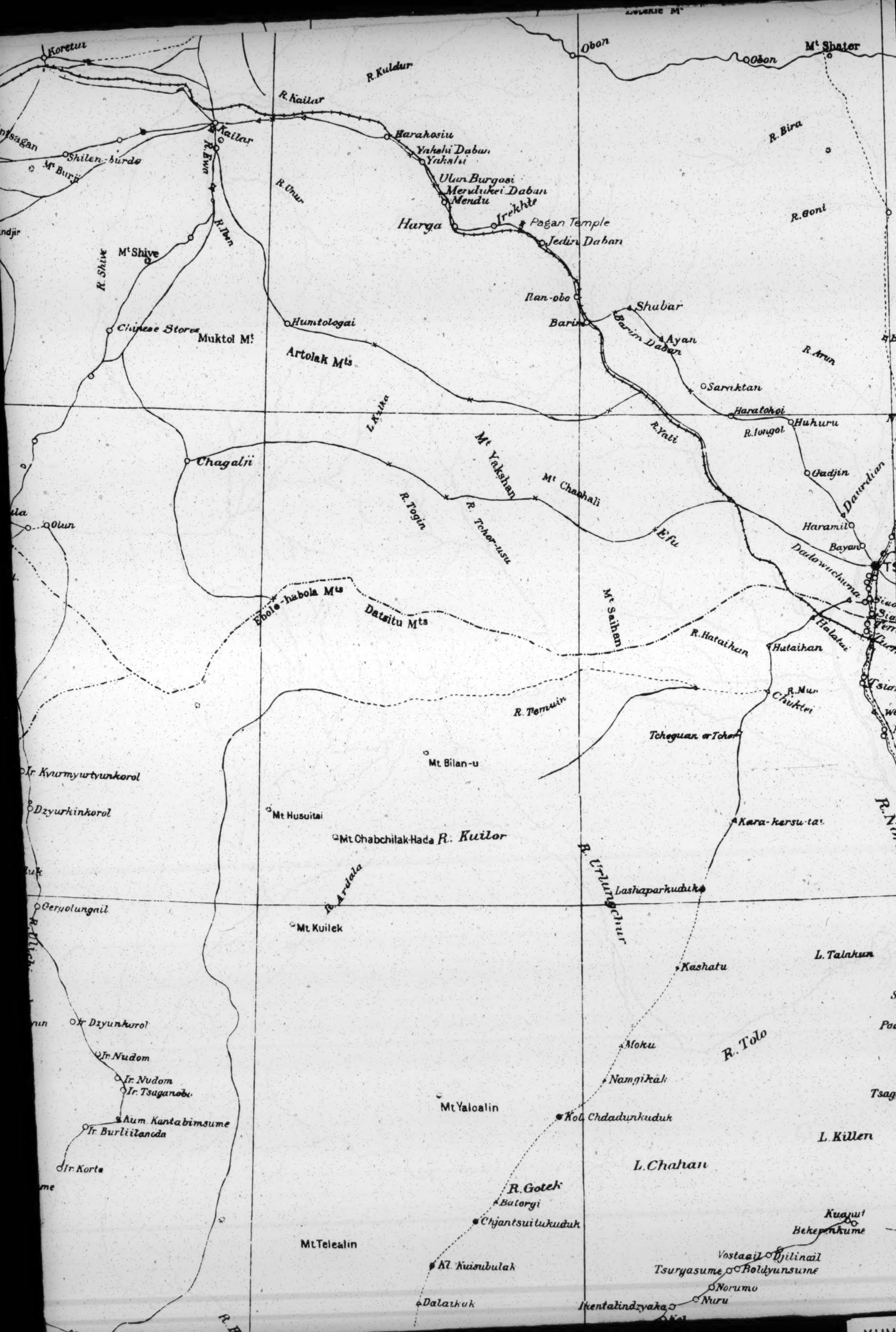
Mt Burji
Ulun Burgasi
Merdukei Daban
Mendu
R. Unur
Gandjir
Hurga
Irekhte
Pagan Temple
Jedin Daban
R. Iben
Mt Shive
R. Shive
Ilan-obo
Shubar
Barim
Barim Daban
Ayan
Humtologai
Chinese Stores
Muktol Mt
Artolak Mts
Samktan
Haratok
L. Kulka
R. Yali
R. Iong
Mt Yakshan
Hunk
Chagalji
Mt Chachali
R. Kalka
R. Togin
R. Tchor-usu
Nula
Olun
Efu
Kol.
Mt Saihan
Eboli-habola Mts
Datsitu Mts
R. Hataihan
R. Temuin
Tcheguan or Tchor
Kol.
Kumluksume
Ir. Kvurmyurtvunkorol
Mt Bilan-u
Dzyurkinkorol
Mt Husuitai
Kara-kere
Mt Chabchilak-Hada
R. Kuilor
Kol.
Kol. Naryunkuduk
R. Ardala
R. Urlungchur
Lashaparkuduk
Ir. Kayurshidar
Gergolungail
Mt Kuilek
sumu
Yu
R. Ulichin gol
Kashatu
Kum Bayankoshu
Ir. Lajoliyun
Ir. Dzyunkorol
R. Tolo
Moku
Ir. Nudom
Ir. Nudom
Ir. Tsaganobo
Namgikali
Kol.
Mt Yaloalin
Kol. Chdadunkuduk
Kum. Kantabimsume
Ir. Burliilancda
L. Chahan
Ir. Kudjurtyungol
Ir. Korte
R. Gotek
Kum. Ertsyugensume
Balorgi
Ir. Kuduluk
Chjantsuitukuduk
Tabinsume
Mt Telealin
Vostaail
Djil
Kl. Kuisubulak
Tsuryasume
Boldyuns
Norumo
Nuru
Dalaikuk
Ikentalindzyaka
Kol.
Kol.
R. Haki
Tsugunsodorga
Gebgorda
Chan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Obon
Mt Shater
R. Kuldur
R. Kailar
Kailar
R. Ewa
Barahosiu
Yakslu Daban
Yakslu
Shilen-burdo
Mt Burji
R. Bira
R. Unur
Ulun Burgosi
Mendukei Daban
Mendu
Harga
Irekhte
Pagan Temple
Jedin Daban
R. Goni
R. Iban
Mt Shive
R. Shive
Ilan-obo
Shubar
Bariin
Bariin Daban
Ayan
Chinese Stores
Muktol Mt
Humtologai
Artolak Mts
R. Arun
Samktan
Haratohoi
Huhuru
R. Iwngol
L. Kalka
R. Yali
Mt Yakshan
Chagalji
Mt Chaohali
Gadjin
Daurdian
Haramil
R. Togin
R. Tchor-usu
Efu
Bayan
Olun
Daulowuchuma
Ebole-habola Mts
Datsitu Mts
Mt Saihan
R. Hataihan
Hutaihan
Halatai
R. Temuin
R. Mur
Chuktei
Tcheguan or Tchor
Mt Bilan-u
Ir. Kvurmyurtyunkorol
Dzyurkinkorol
Mt Husuitai
Mt Chabchilak-Hada
R. Kuilor
Kara-kersu-tai
R. Ardala
R. Urlungchur
Lashaparkuduk
Gerguolungnil
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Kashatu
L. Talahun
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Ir. Tsaganobo
Namgikak
Kum. Kantabimsume
Mt Yaloalin
Kol. Chdadunkuduk
Ir. Burliitanoda
L. Killen
Ir. Korte
L. Chahan
R. Gotek
Batorgi
Chjantsuitukuduk
Kuanut
Bekepinkume
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Boldyunsume
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Norumo
Nuru
Dalaikuk
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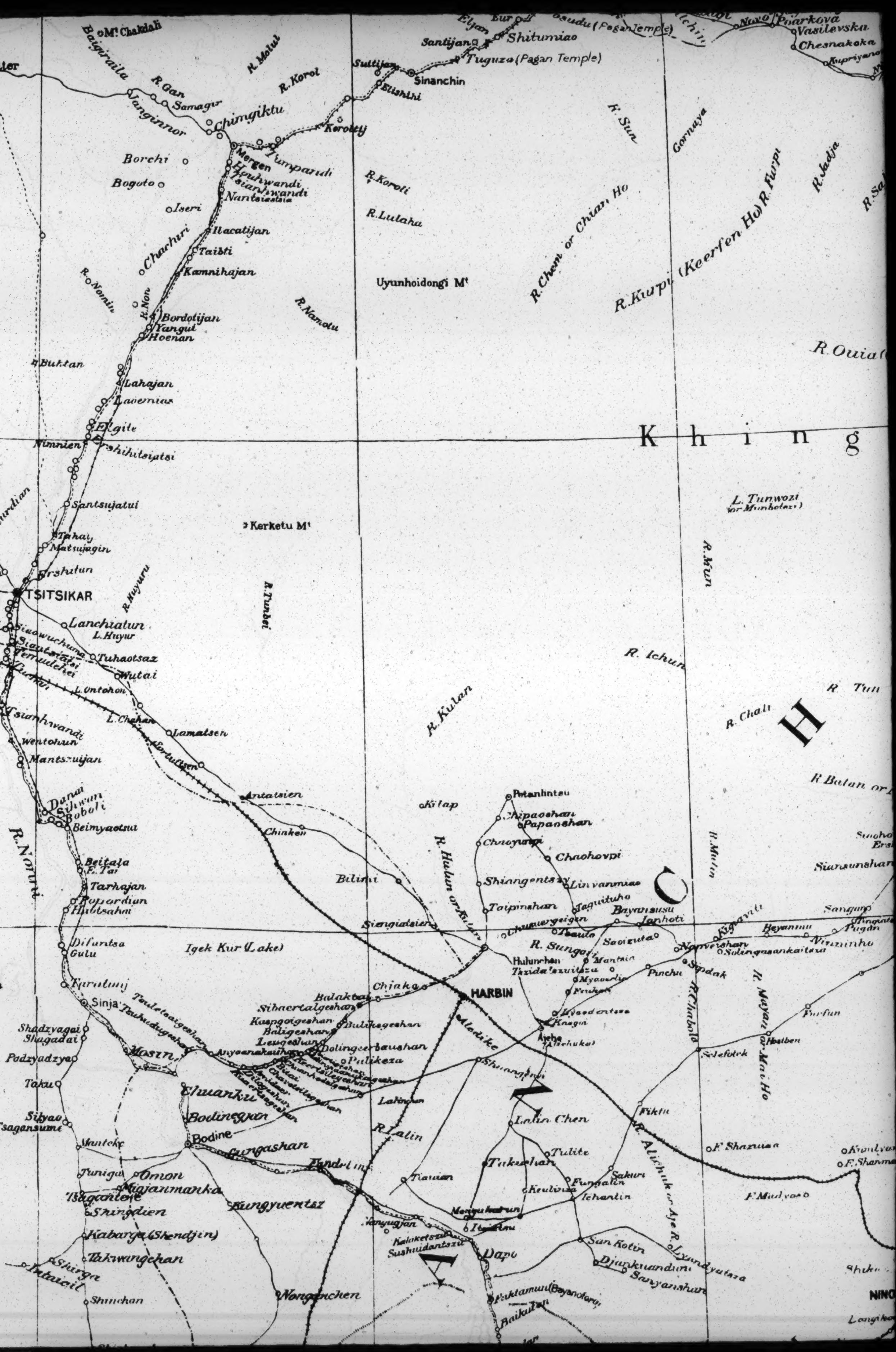

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Janginnor
Chimgiktu
R. Molul
R. Korol
Elijan
Eur
Osudu (Pagan Temple)
Santijan
Shitumiao
Tuguzo (Pagan Temple)
Suitijan
Sinanchin
Elishihi
Korobty
Novo
Pharkova
Vasilevska
Chesnakoka
Kupriyano
Gornaya
R. Sun
Borchi
Mergen
Tumparudi
Bogoto
Heuhwandi
Tsianhwandi
Nantsiastsia
Iseri
R. Koroli
R. Lulaha
R. Chem or Chian Ho
R. Kurpi (Keerfen Ho) R. Furpi
R. Jadja
Ilacatijan
Taibti
Chachiri
Kamnihajan
R. Nomin
R. Non
Uyunhoidongi Mt.
R. Namotu
Bordotijan
Yangul
Hoenan
R. Ouia
Buktan
Lahajan
Laoemiao
Elgile
Nimnien
Shihitsiatsi
Khing
Santsujatui
L. Tunwozi (or Munholozi)
Kerketu Mt.
Tahai
Matsujagin
Ershitun
R. Mun
TSITSIKAR
R. Huyuru
R. Tunbei
Lanchiatun
L. Huyur
Siaowuchung
Siaolaitsi
Tumulehei
Tuhaotsaz
Wutai
R. Ichun
L. Ontohon
R. Tun
L. Chahan
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R. Chali
Tsianhwandi
Wentohun
Lamatsen
Mantszuijan
H
R. Balan or
Danai
Sihwun
Boboli
Antatsien
Putanlintsu
Beimyaotsui
Kilap
Chipaoshan
Papanshan
Chinken
R. Norun
Chaoyungi
R. Hulun or Kulan
Chaohovni
R. Mulin
Siunsunshan
Beitala
E. Tai
Bilimi
Shinngentsz
Linvanmiao
C
Tarhajan
Popordian
Taipinshan
Jaguituho
Habtsahai
Bayansusu
Sangun
Siengiatsien
Chuungeigen
Janhoti
Kiganti
Heyanmu
Pugan
Difuntsa
Tsaulo
Saoizuta
Nanweishan
Yiuninho
Gulu
Igek Kur (Lake)
R. Sungari
Solingasankaitsu
Hulunchen
Mantsia
Tszida
Pinchu
Sindak
R. Mayan or Mai Ho
Farulunj
Chiaka
Myouerlin
HARBIN
Sinja
Balaktai
Feuhen
R. Chabold
Furfun
Sibaertalgeshan
Kiaodentsza
Kasgin
Shadzyagai
Shagadai
Kuangoigeshan
Bulikegeshan
Alerike
Aicho
Holben
Baligeshan
Alichukai
Padzyadzya
Masin
Leugeshan
Dolingcerbaushan
Selefotek
Pulikeza
Taku
Shuangpeni
Eluankiu
N
Lalinchen
Fiktu
Silyao
Tsagansume
Bodinegyan
Lalin Chen
R. Lalin
Bodine
F. Shazuian
Kuntyan
Mantcke
Tulite
F. Shanman
Sungashan
Tuniga
Omon
Handel
Takushan
Sakuri
Tsiaian
Fungalin
Najaumanka
Kouluiza
Tsagantere
Ichanlin
F. Mudvas
Kungyuentsz
Shingdien
Mengukutun
Itsianmu
Jangujjan
Kabarga (Shendjin)
San Kotin
R. Alichuk or Aje R.
Kalaketsza
Sushuidantsza
Dapo
Djunkuandian
Lyandyatsza
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Shike
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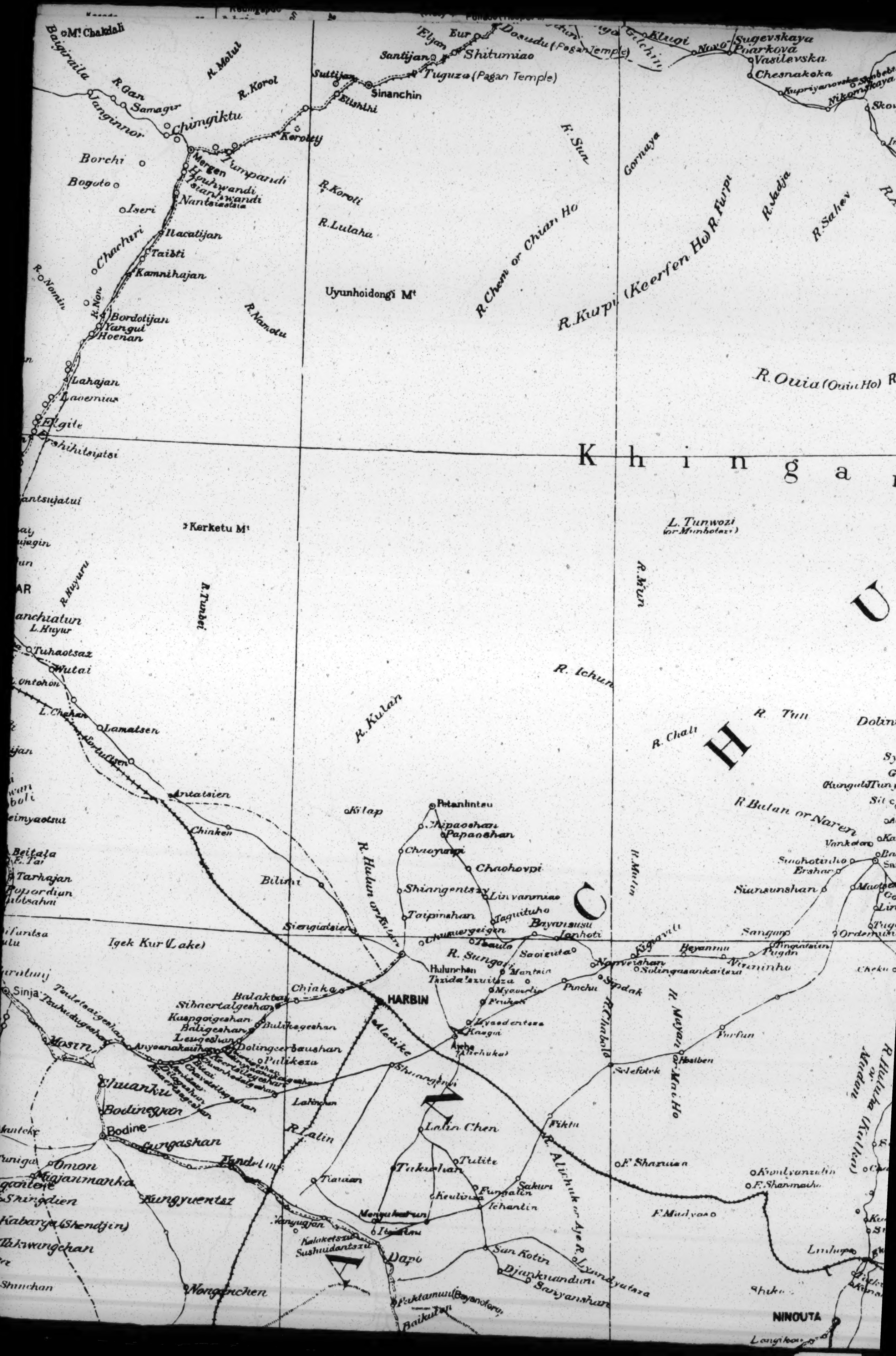
Longiko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Borchi
Bogoto
Mergen
Tumpandi
Iseri
Nantsiatsia
Ilacatijan
Taibti
Kamnihajan
Chachuri
R. Nomin
R. Non
Bordotijan
Yangui
Hoenan
R. Namoiu
Lahajan
Elgite
Eur
Dosudu (Pagan Temple)
Shitumiao
Santijan
Suttijan
Sinanchin
Tuguza (Pagan Temple)
Elishihi
Kerolty
R. Koroli
R. Lulaha
Uyunhoidongi Mt.
R. Sun
Gornuya
Klugi
Novo
Sugevskaya
Poarkova
Vasilevska
Chesnakoka
Kupriyanovska
Nikomskaya
R. Chem or Chian Ho
R. Kurpi (Keerfen Ho) R. Kurpi
R. Jadja
R. Sahev
R. Ouia (Ouia Ho)
Khingan
Kerketu Mt.
L. Tunwozi (or Munhotszi)
R. Mun
R. Kuyuru
R. Tunbei
anchiatun
L. Huyur
Tuhaotsaz
Wutai
Ontohon
L. Chahan
Lamatsen
Sortufsen
Antatsien
Chinken
R. Ichun
R. Kulan
R. Tun
R. Chali
Dolin
MANCHURIA
R. Balan or Naren
Kilap
Petanlintsu
Chipaoshan
Papaoshan
Chaoyuapi
Chaohovpi
Shiangentszy
Linvanmiao
Taipinshan
Taguituho
R. Hulun or Fulan
R. Mulin
Bilimi
Beitala
Tarhajan
Igek Kur (Lake)
Siengiatsien
Bayansusu
Janhoti
R. Sungari
Saoizuta
Hulunchen
Mantsin
Nanveishan
Kiganili
Beyanmu
Tingutsien
Sangan
Solingasankaitsu
Vininho
Sinja
Chiaka
HARBIN
Balaktai
Pinchu
Sapdak
Siansunshan
Dolingcerbaushan
Bulikegeshan
Alediko
Aleha
R. Chabold
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Purfun
Hoilben
Selefotrk
Mosin
Chuanku
Bodingkan
Bodine
Cungashan
Tandel
Lalinchen
R. Lalin
Lalin Chen
Tukushan
Tulite
Fiktu
R. Alichuk or Aye R.
F. Shazuian
Kuulvanzalin
F. Shanmaiho
F. Mudyao
Omon
Ninjamanka
Kungyuentsz
Shingdien
Kabarya (Shendjin)
Takwingchan
Tiauan
Keulivua
Fungalin
Ichanlin
Sakuri
Yanyugjan
Kalaketszu
Sushiudantszu
Dapo
San Kotin
Djankuandun
Sanyanshan
Lyandyatsa
Linlupo
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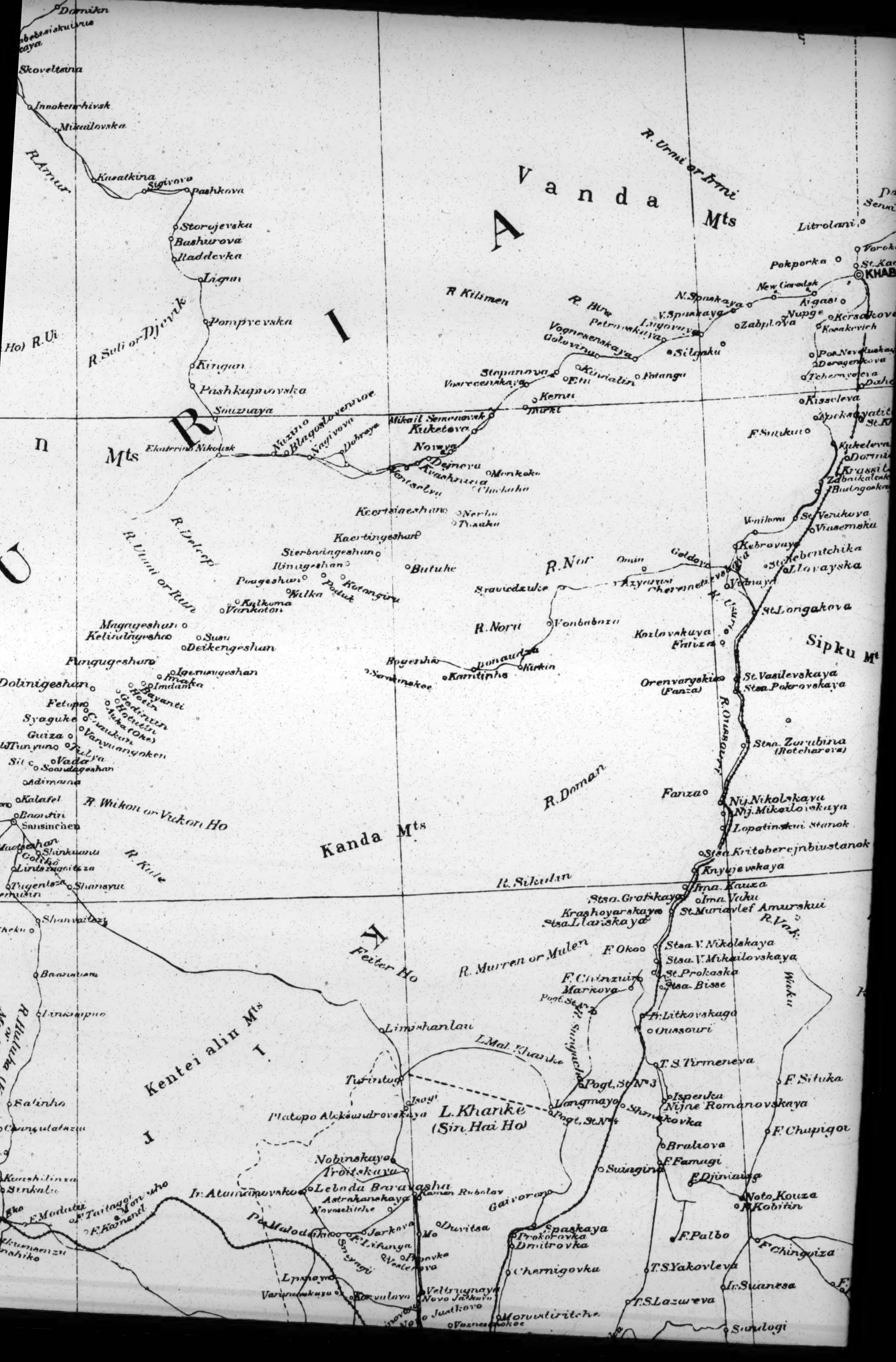
Baikutan
NINOUTA
Langikao
R. Huluha (Kalkha)
Mudan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Raddevka
Ligun
Pompcevska
Kingan
Pashkupnovska
Souznaya
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R. Ui
Ekaterina Nikolsk
Nazino
Blagoslovennoe
Nagibova
Dobraye
Mikail Semenovsk
Kuketova
Nowya
Dejnova
Kvashnina
Kentselva
Menkoke
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R. Urmi or Irmi
R. Kilimen
R. Bira
Petrovskaya
Vognesenskaya
Golovina
Lugovaya
V. Spuskaya
N. Spaskaya
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Aigasi
Nupge
Zabplova
Silgaku
Patanga
Kindalin
Etu
Stepanova
Voskresenskaya
Kemu
Murki
Litrolani
Pokporka
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Vorok
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Deragenkova
Tchernyaeva
Kisseleva
F. Sunkau
Kukeleva
Dormid
Krassil
Zabaikalesk
Budagosk
Venilenu
St. Venukova
Viasemska
Kebrovaya
St. Kebentchika
Llovayska
St. Longakova
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Vobnaya
Chervnetievskaya
Azyaryst
Omin
Goldova
R. Nor
Sraviedzuke
R. Norti
Vonbabora
Kozlovskaya
Fatiza
R. Ussuri
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Bonaudza
Kirkin
Kamtinha
Santinskoe
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Tsaaku
Kaertingeshan
Sterbadingeshan
Ilinageshan
Butuhe
Pougeshan
Poduk
Kotangiru
Walka
Kalkoma
Vankoton
Magageshan
Kelinlageshan
Susu
Deikengeshan
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Igemuugeshan
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Imdam
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Hotiutin
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Cmukan
Vanyuangoken
Dolinigeshan
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Tunyuno
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Soandegeshan
Adimaina
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Maoteshan
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Goliho
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Knyajevskaya
Ima. Kauza
Ima. Vaku
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Krashoyarskaya
Stsa. Llariskaya
St. Muriavlef Amurskui
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Kanda Mts
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Stsa. V. Mikailovskaya
St. Prokaska
Stsa. Bisse
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F. Kobitin
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Lebeda Baravasha
Kamen Rubolov
Astrakhanskaya
Novoselitche
Ir. Atamanovsko
Gaivoron
Spaskaya
Prokorovka
Dmitrovka
Chernigovka
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Ir. Suiansa
T. S. Lazareva
Sandogi
Molodetki
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Sreyagi
Popovka
Vesterova
Lrmova
Varunskaya
Kovalova
Veltrugnaya
Novo Jatkaro
Novo Justkovo
Monastiritche
Voznesenskoe
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Baanatuan
Linkaipuo
Salinho
Chungulatszu
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Seni
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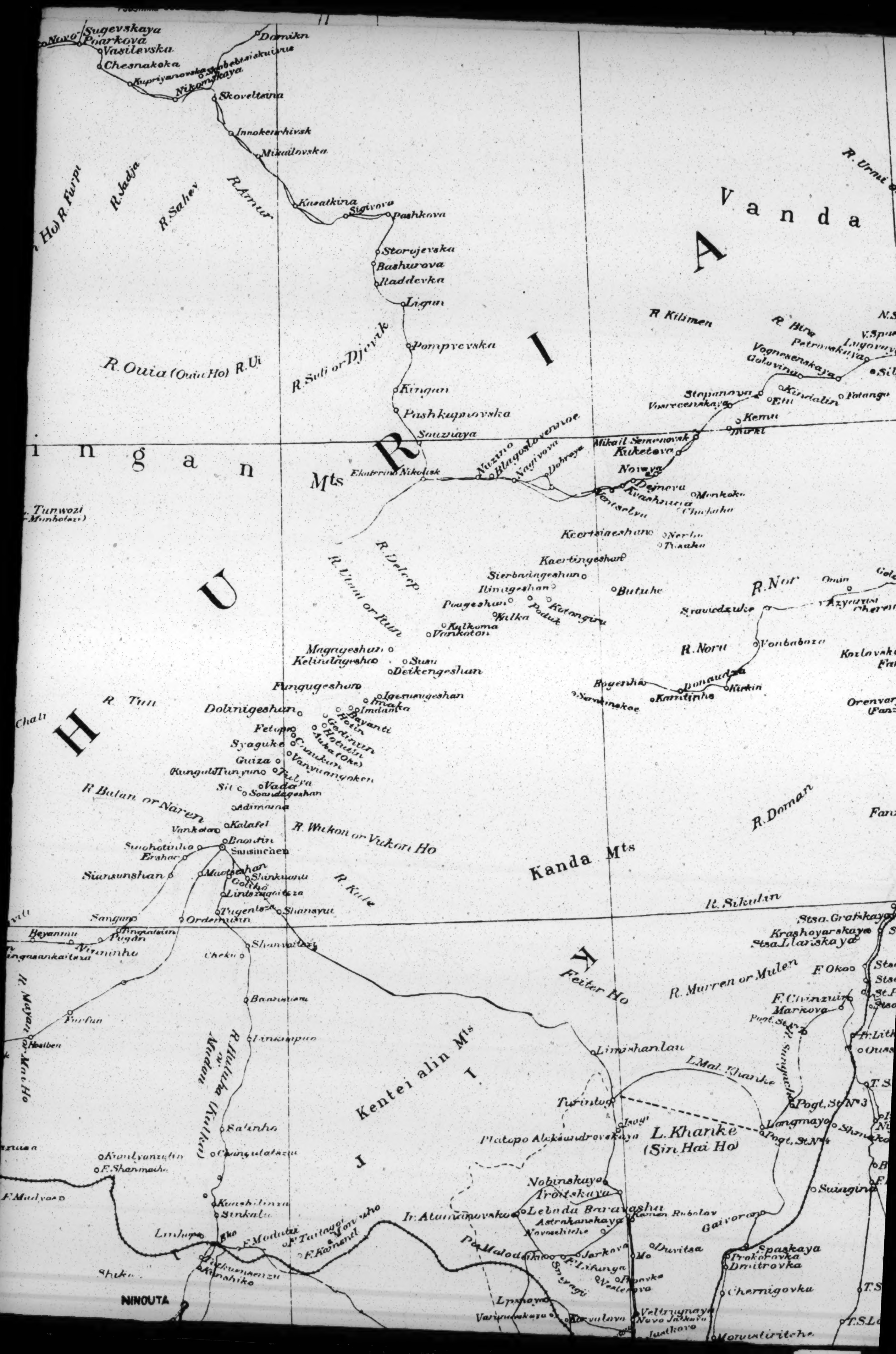
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Sigivovo
Pashkova
Storojevska
Bashurova
Raddevka
Ligun
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R. Suli or Djevik
R. Ouia (Ouia Ho) R. Ui
Kingan
Pashkupnovska
Souzuaya
Ekaterino Nikolsk
Nuzino
Blagoslovennoe
Nagivova
Dobraya
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Tunwozi
Munbotezi
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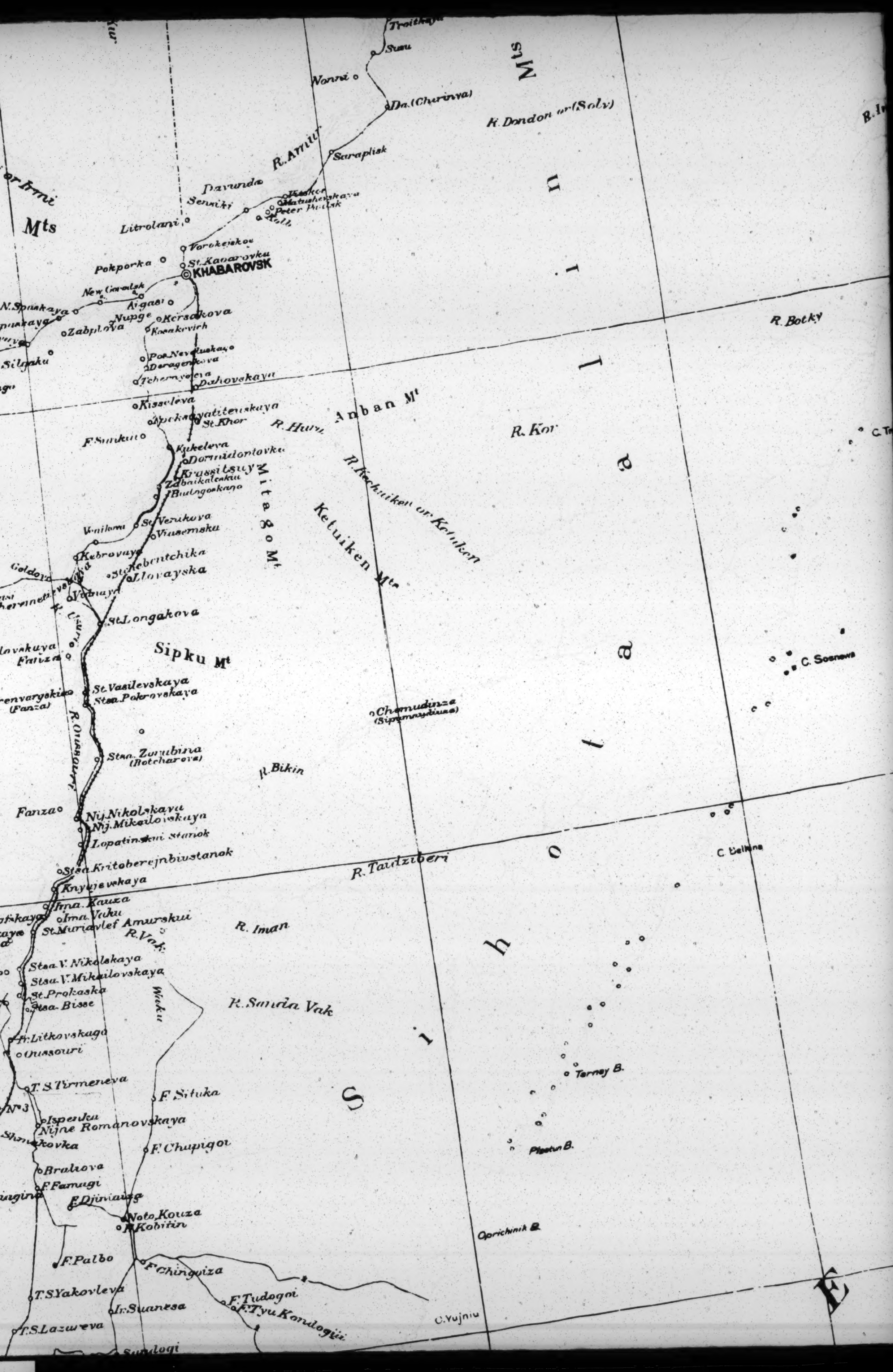
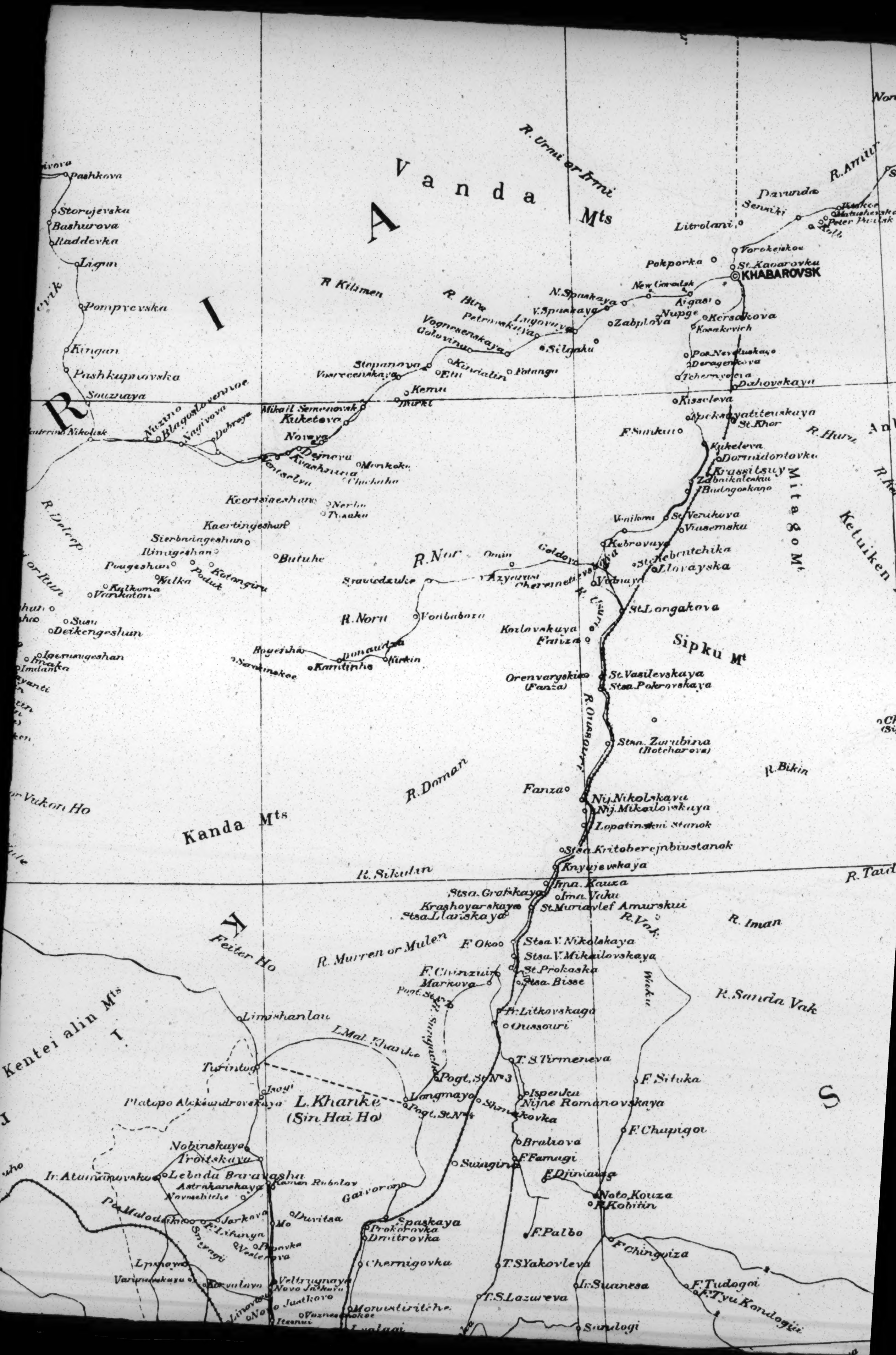
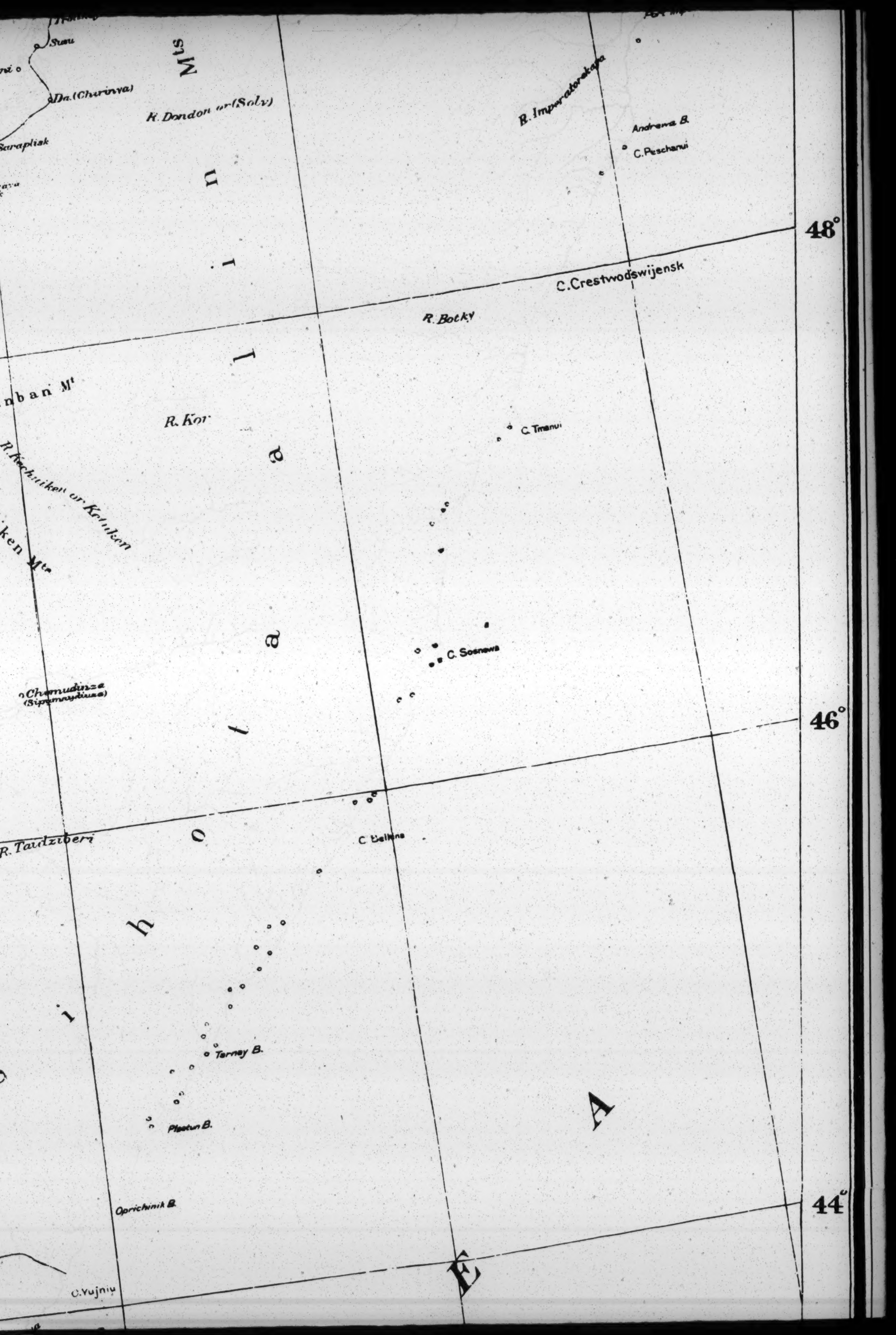
R. Kilimen
R. Bira
Petrovskaya
Lugovaya
V. Spas
Vognesenskaya
Golovina
Sil
Stepanova
Voznesenskaya
Kindalin
Etti
Fatanga
Kemu
Burki
Mikail Semenovsk
Kuketova
Nowya
Dejnova
Kvashnina
Ventselyu
Monkoko
Chuhaha
Keertsinesham
Nerle
Tisaku
Kaertingeshan
Sterbadingeshan
Ilimageshan
Butuhe
Poageshan
Kotongiru
Poduk
Walka
Kalkoma
Vankoton
R. Delcep
R. Ulani or Itun
Magageshan
Kelindingesha
Susu
Deikengeshan
Funqugeshan
Igesuangeshan
Imaka
Imdam
Dolinigeshan
Bayanti
Hotin
Gotinun
Hotutin
Auka (Oke)
Fetopo
Syaguke
Guiza
Cuuakun
Vanyuangoken
Kungul
Tunyun
Fulya
Sit
Vada
Soandageshan
Adimamo
R. Tun
Chali
R. Bulan or Naren
Kalafel
Vankoton
R. Wukon or Vukon Ho
Baoutin
Suohotinho
Ershao
Sansinchen
Siansunshan
Maotseshan
Shinkuanu
Golihö
Lintsingaitsza
Tugentsza
Shanayui
R. Kule
Kanda Mts
R. Doman
R. Nor
Omin
Azyazusi
Chervil
Sravedzuke
Vonbabaza
R. Noru
Kozlovsk
Fa
Bogenhö
Donaudza
Kirkin
Santinskoe
Kantinhe
Orenvar
(Fanz
Fan
R. Sikulin
Stsa. Grafskaya
Krasnoyarskaya
Stsa. Llarskaya
Sangun
Ordemutin
Bayanmu
Tingintsin
Pugan
Ninninho
ingasankaitszu
Shanmaitsu
Cheku
R. Mayan
Mai Ho
Fusfan
Hoalben
Baoushan
Linkoupuo
R. Hulula (Kulka)
Mudan
Kentei alin Mts
I
J
K
Feiter Ho
R. Murren or Mulen
F. Oko
F. Chinzun
Markova
Pogt. St. N
R. Sungachi
Limishanlau
L. Mal. Khanke
Turintog
Pogt. St. N 3
Longmayo
Pogt. St. N 4
Jsagi
L. Khanke (Sin Hai Ho)
Platopo Aleksandrovskaya
Salinho
Koulyanzulin
F. Shanmaiho
Chingulatszu
Nobinskaya
Troitskaya
Suiagine
F. Mudyao
Kuashilinza
Sinkalu
Lebada Baravasha
Ir. Atamanovsko
Astrakanskaya
Novoselitche
Kamen Rubolov
Gaivoron
Linlupo
Eko
F. Modatzi
F. Taitaggi
Monaiho
F. Kamend
Spaskaya
Prokorovka
Dmitrovka
Po Malodeikino
Jarkova
Mo
Duvitsa
F. Lifunga
Snyagi
Ronvka
Veslerova
Chernigovka
Shiko
Kinshiko
NINOUTA
Lysnova
Variunovskaya
Korvalova
Veltrugnaya
Novo Jakeli
Justkova
Monastiritche
T.S
T.S.L
Stsa
St.F
F. Lith
Ouas
Nu


Troitskaya
Susu
Nonni
Da (Churinva)
Mts
R. Dondon or (Solv)
R. Amur
Saraplisk
Davunda
Senniki
Matushevskaya
Peter Paulsk
Litrolani
Mts
or Irmi
Vorokeiskov
St. Kazarovka
Pokporka
KHABAROVSK
New Goralsk
Aigasi
N. Spaskaya
Nupge
Kersakova
Kosakevich
Zabplova
Silgaku
Pos. Nevelskaya
Deragenkova
Tchernyaeva
Dahovskaya
Kisseleva
Spekadyatiteuskaya
St. Khor
R. Huri
Anban Mt
R. Kor
R. Botky
F. Sunkuri
Kukeleva
Dormidontovka
Krassitsky
Zabaikalskiu
Budagoskago
Mts
Mitago Mt
R. Kebuiken or Kebuken
Keluiken Mts
Venilomi
St. Venukova
Viasemsku
Kebrovaye
St. Kebentchika
Llovayska
Goldora
Vobnaya
St. Longakova
Sipku Mt
Faiza
St. Vasilevskaya
Stsa. Pokrovskaya
(Fanza)
R. Oussouri
Chemudinza
(Sipunnydiuza)
Stsa. Zorubina
(Botcharova)
R. Bikin
Fanza
Nij. Nikolskaya
Nij. Mikailovskaya
Lopatinskui Stanok
Stsa. Kritoberejnbiustanok
R. Taudziberi
Knyajevskaya
Ima. Kauza
Ima. Vaku
St. Muriavlef Amurskui
R. Vak
R. Iman
Stsa. V. Nikolskaya
Stsa. V. Mikailovskaya
St. Prokaska
Stsa. Bisse
Wiaku
R. Sanda Vak
Fr. Litkovskago
Oussouri
T. S. Tirmeneva
F. Situka
No 3
Ispenka
Nijne Romanovskaya
Shmakovka
F. Chupigoi
Brakova
F. Famagi
F. Djiniauza
Noto Kouza
F. Kobitin
F. Palbo
F. Chingoiza
T. S. Yakovleva
F. Tudogoi
F. Tyu Kondogiu
Ir. Suanesa
T. S. Lazareva
Sundogi
C. Vujniu
Sikhota Alin Mts
C. Sosnowa
C. Belkina
Terney B.
Plastun B.
Oprichinik B.
E

UM


R. Urmi or Irmi
Vanda Mts
A
I
R
R. Amur
Davunda
Sennki
Litrolani
Peter Paulsk
Koll
Vorokejskoe
Pokporka
St. Kazarovka
KHABAROVSK
New Goroisk
N. Spaskaya
V. Spaskaya
Aigasi
Nupge
Kersakova
Kosakevich
Zabplova
Lugovaya
Petrovskaya
Vognesenskaya
Golovina
Silgaku
R Kilimen
R. Bira
Stepanova
Vosrecenskaya
Kindalin
Etu
Fotanga
Kemu
Birki
Pos. Nevelskaya
Deragenkova
Tchernyozera
Dahovskaya
Kisseleva
Spaskayatiteuskaya
St. Khor
F. Sunku
R. Huru
Kukeleva
Dormidontovka
Krassilsuy
Zabaikalskaya
Budagoskaya
Mitago Mt
Ketuiken
Venilomi
St. Verukova
Viasemsku
Kebrovay
St. Kebentchika
Llovayska
Goldova
Omin
R. Nor
Azyansi
Cherenetievskaya
Vodnaya
R. Usuri
St. Longakova
Sipku Mt
Kozlovskaya
Fauza
Orenvaryski
(Fanza)
St. Vasilevskaya
Stsa. Pokrovskaya
R. Oussouri
Stsa. Zorubina
(Botcharova)
R. Bikin
Fanza
Nij. Nikolskaya
Nij. Mikailovskaya
Lopatinskui Stanok
Stsa. Kritoberejnbiustanok
Knyajevskaya
Ima. Kauza
Ima. Vaku
Stsa. Grafskaya
Krashoyarskaya
Stsa. Llarskaya
St. Muriavlef Amurskui
R. Vak
R. Iman
R. Taud
Pashkova
Storojevska
Bashurova
Raddevka
Ligun
Pompreevska
Kingan
Pashkupnovska
Souznaya
Nikolsk
Nuzino
Blagoslovennoe
Nagivova
Dobraya
Mikail Semenovsk
Kuketova
Novaya
Dejnera
Kvashnina
Ventselva
Monkoku
Chuhaha
Keertsiaeshan
Nerbo
Tusaku
Kaertingeshan
Sierbaiageshan
Ilimugeshan
Butuhe
Pougeshan
Kotangiru
Poduk
Kalka
Kalkoma
Vankoton
Susu
Deikengeshan
Iaesnugeshan
Imaka
Imdanka
R. Delecp
or Itun
or Vukon Ho
Sraviedzuke
R. Noru
Vonbaboza
Bogenha
Bonaudza
Kamtinho
Kirkin
Sonkinskoe
R. Doman
Kanda Mts
R. Sikulan
K
Feiter Ho
Kentei alin Mts
I
R. Murren or Mulen
F. Oko
F. Chinzuir
Markova
Pogt. St. N°2
R. Sungach
Limishanlau
L. Mal. Khanke
Turintog
Isogi
Platopo Aleksandrovskaya
L. Khanke
(Sin Hai Ho)
Langmayo
Pogt. St. N°3
Pogt. St. N°4
Nobinskaya
Troitskaya
Ir. Atamanovsko
Lebada Baravasha
Astrakanskaya
Kamen Rubolov
Novoselitche
Gaivoron
Pr. Malodeiki
Jarkova
Mo
Duritsa
F. Lifunga
Sneyagi
Popovka
Veslerova
Spaskaya
Prokorovka
Dmitrovka
Chernigovka
Lpsnaya
Varinovskaya
Korvalova
Veltrugnaya
Novo Jatkovo
Justkovo
Linovka
Novo
Itsenui
Voznesenskoe
Monastiritche
Stsa. V. Nikolskaya
Stsa. V. Mikailovskaya
St. Prokaska
Stsa. Bisse
Pr. Litkovskaga
Oussouri
Wuku
R. Sanda Vak
T. S. Tirmeneva
F. Situka
Ispenka
Nijne Romanovskaya
Shmakovka
F. Chupigou
Brakova
S
Suingin
F. Famagi
F. Djinvaiza
Noto Kouza
F. Kobitin
F. Palbo
F. Chingoiza
T. S. Yakovleva
Ir. Suantsa
F. Tudogoi
F. Tyu Kondogiu
T. S. Lazureva
Sandlogi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ni
Da.(Chirinva)
Saraplisk
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Andrewa B.
C. Peschanui
48°
C. Crestwodswijensk
R. Botky
nban Mt
R. Kor
R. Kechuiken or Kotuken
iken Mts
C. Tmanui
C. Sosnowa
Chomudinza
(Sipmmaydiuza)
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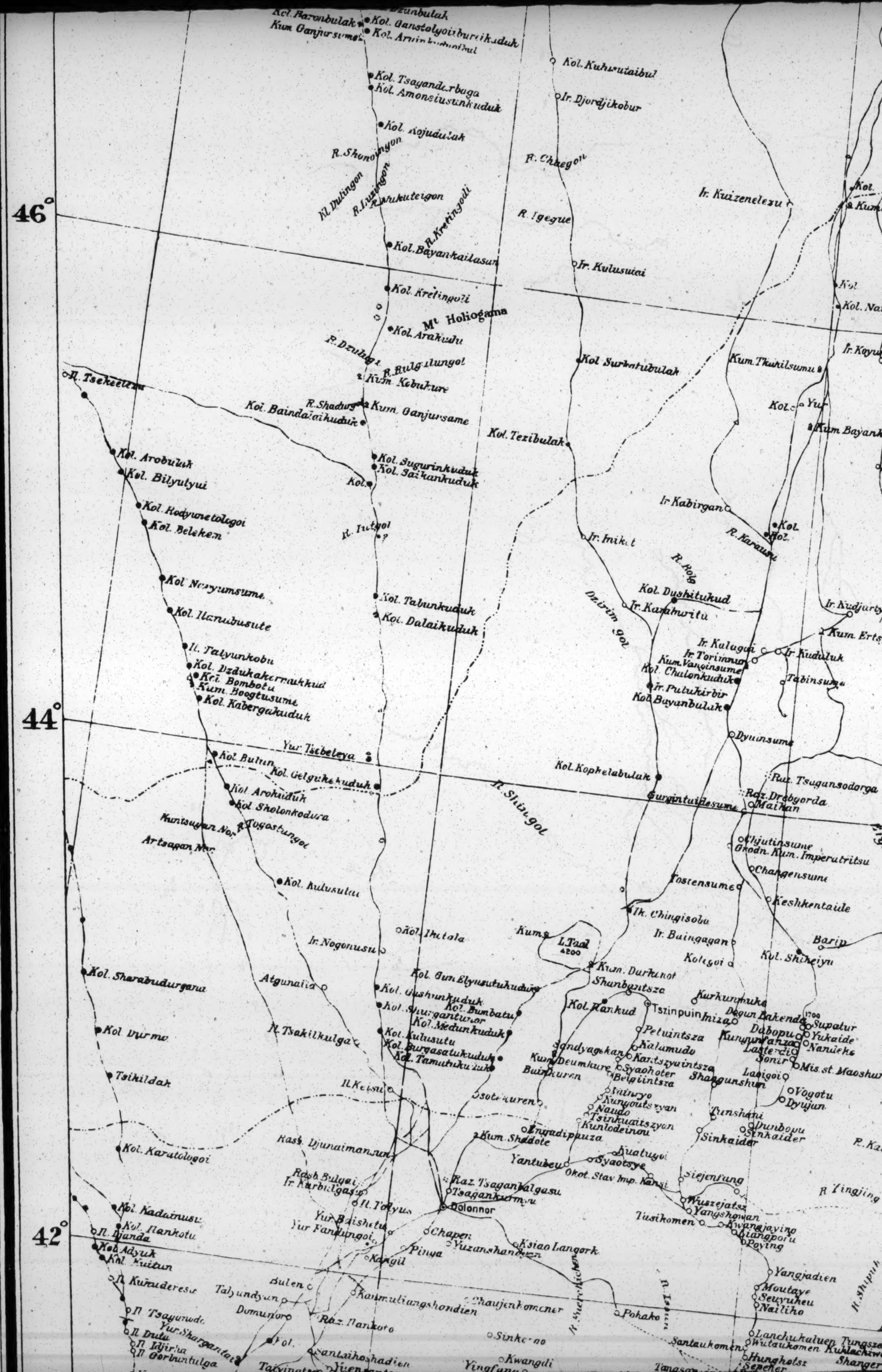
R. Taidziberi
C. Bellkina
Terney B.
Plastun B.
Oprichnik B.
C. Vujniu
E A
44°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44°
42°
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Dzunbulak
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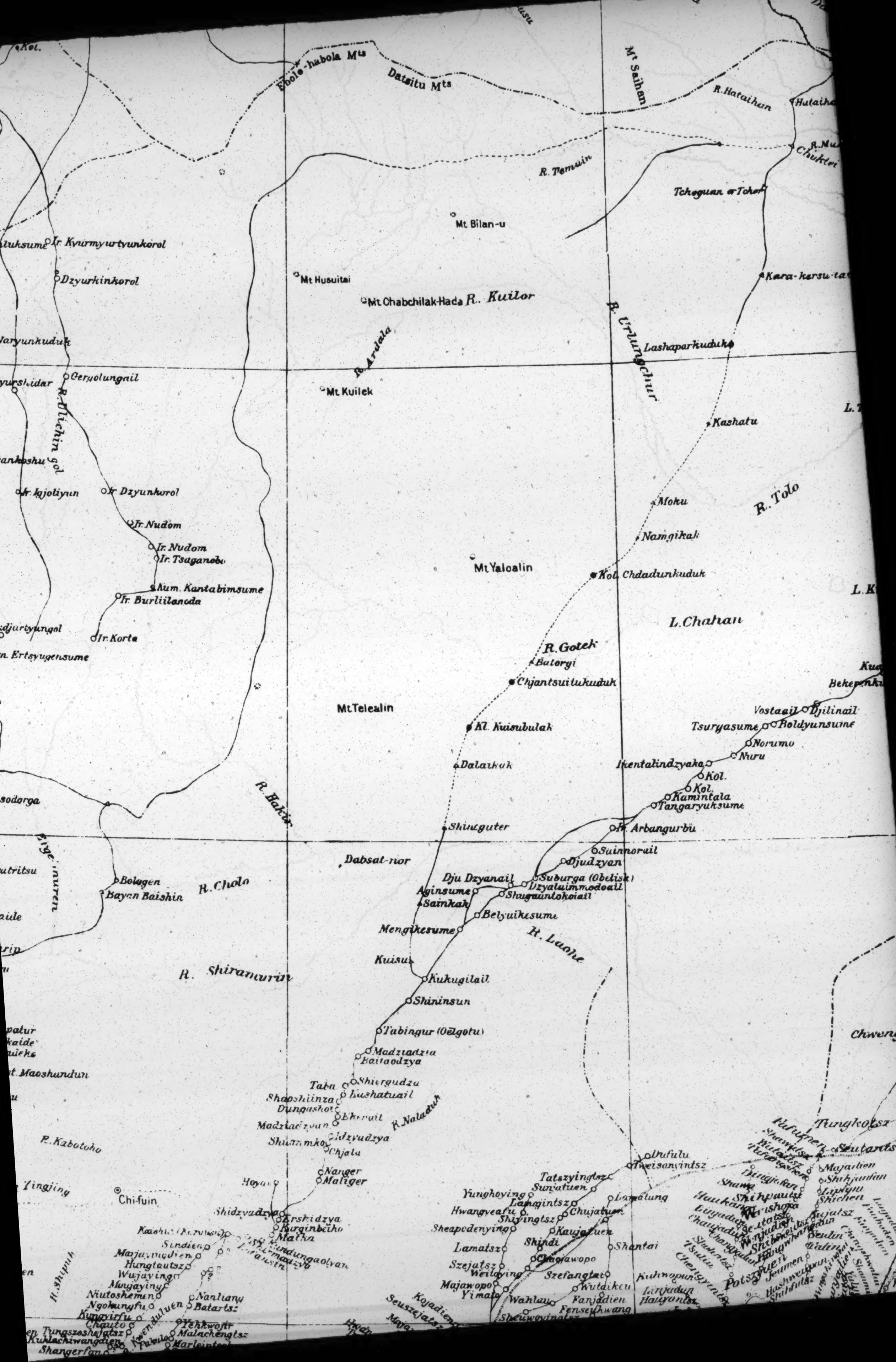
Kol. Kuhusutaibul
Kol. Tsagandarbuga
Kol. Amonziustinkuduk
Ir. Djordjikobur
Kol. Kojudulak
R. Shunoinyon
R. Chaegon
Kl. Dulingon
R. Iuzingon
R. Rukuteigon
R. Kretingoli
Ir. Kuizenelezu
Kol.
Kum.
R. Igegue
Kol. Bayankailasun
Ir. Kulusuiai
Kol. Kretingoli
Mt Holiogama
Kol.
Kol. Na
Kol. Arakudu
R. Dzubugi
R. Bulgalungol
Ir. Koyu
Kum. Kebukure
Kol Surkotubulak
Kum. Tkuhilsumu
Il. Tsekeeleza
R. Shadurge
Kum. Ganjursame
Kol.
Yur
Kol. Baindalaikuduk
Kum Bayank
Kol. Tezibulak
Kol. Arobuluk
Kol. Sugurinkuduk
Kol. Bilyulyui
Kol. Saikankuduk
Kol.
Kol. Hodyunetologoi
Ir. Kabirgan
Kol. Belekem
Kol.
Kol.
R. Iutgol
R. Karausu
Ir. Inikit
R. Bolg
Kol. Naryumsume
Dzirim gol
Kol. Tabunkuduk
Kol. Dushitukud
Kol. Ilanubusute
Kol. Dalaikuduk
Ir. Karalmoritu
Ir. Kudjurty
Kum. Erts
Il. Talyunkobu
Ir. Kalugui
Ir. Torimnur
Ir. Kuduluk
Kol. Dzdukakernukkud
Kum. Vangingsume
Kol. Bombotu
Kol. Chulonkuduk
Kum. Boogtusume
Tabinsuma
Kol. Kabergakuduk
Ir. Putukirbir
Kol. Buyanbulak
Dyuinsume
Yur. Tsibeleya
Kol. Bulun
Kol. Gelguhekuduh
Kol. Kophelabulak
Raz. Tsugunsodorga
Kol. Arokuduk
R. Shingol
Gurgintuidesume
Raz. Drobyorda
Maikan
Kol. Sholonkodura
Kuntsugan Nor
R. Togastungol
Artsagan Nor
Chjutinsume
Grodn. Kum. Imperatritsu
Changensume
Tostensume
Kol. Kulusulai
Keshkentaide
Ik. Chingisobu
Kol. Ihitola
Kum
L. Taal 4200
Ir. Buingagan
Barin
Ir. Nogonusu
Kol. Shikeiyu
Kum. Durkunot
Kolegoi
Kol. Sharabudurgana
Kol. Gun Elyusutukuduk
Shunbuntsza
Atgunalia
Kol. Gushunkuduk
Kurkunbuke
Kol. Shurgantunor
Kol. Bumbatu
Kol. Ilankud
Tszinpuin
Iniza
Degun Bakenda
1700
Kol. Medunkuduk
Supatur
Dabopu
Yukaide
Kol Durmo
Il. Tsakilkulga
Petuintsza
Kol. Kulusutu
Kalamudo
Kunguntanza
Nanieks
Kol. Burgasatukuduk
Sandyagchan
Lasterdi
Kol. Tamutukuzuk
Kum. Deumkure
Kardtszyuintsza
Sonir
Mis. st. Maoshur
Syaohoter
Buirkuren
Belgiintsza
Shangunshun
Laoigoi
Tsikildah
Il. Keisu
Sotukuren
Vatlsyo
Vogotu
Kunyoutszyan
Dyujun
Naudo
Tsinkuaitszyan
Tunshani
Kunlodeinou
Dunbopu
Enyadipauza
Sinkaider
Sinkaider
R. Kz
Kol. Karatologoi
Rask. Djunaimansun
Kum. Shadote
Kuatugoi
Yantubeu
Syaotsye
Okot. Stav Imp. Kansi
Rash Bulgai
Ir. Karbulgasu
Siejenfung
Raz. Tsaganbalgasu
Tsagankurmyu
R. Yingjing
Wuszejatsz
Il. Tolyus
Yangshowan
Kol. Nadainusu
Dolonnor
Tusikomen
Kwangjaying
Kol. Ilankotu
Yur Baishetu
Liangporu
Il. Djanda
Yur Fandungoi
Chapen
Poying
Kol. Adyuk
Yuzanshandzyun
Ksiao Langork
Kol. Kuitun
Pinga
Kangil
Il. Kurudereso
R. Shipuh
Yangjadien
Bulen
Taljundyun
Kanmuliangshondien
Moutaye
Il. Tsagunudo
Seuyuheu
Domunor
Chaujenhomener
R. Sherkichen
R. Isun
Pohako
Nailiho
Yur. Sharganta
Raz. Ilankoto
Il. Dutu
Sinkonno
Lanchukaluen
Tungsze
Il. Idjirha
Kol.
Wutaukomen
Kuklachiwu
Santaukomen
Il. Gorbuntulga
Santsihoshadien
Kwangdi
Hungholsz
Shanger
Taiyingtsz
Yuen
Yingfanu
Tanasan
Sepcher
Kol

XUM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Ebole-habola Mts
Datsitu Mts
Mt Saihan
R. Hataihan
Hutaiha
R. Nu
Chuktei
R. Temuin
Tcheguan or Tchor
Mt Bilan-u
Ir. Kyurmyurtyunkorol
Dzyurkinkorol
Mt Husuitai
Mt Chabchilak-Hada
R. Kuilor
R. Urlungchur
Kara-kersu-ta
Lashaparkuduk
R. Ardala
Gergolungail
R. Ulichin gol
Mt Kuilek
Kashatu
Ir. Igjoliyun
Ir. Dzyunkorol
Ir. Nudom
Ir. Nudom
Ir. Tsaganobo
Moku
R. Tolo
Namgikal
Mt Yaloalin
Kol. Chdadunkuduk
Kum. Kantabimsume
Ir. Burliilanoda
Ir. Korta
Ertsyugensume
L. Chahan
R. Gotek
Batorgi
Chjantsuilukuduk
Mt Telealin
Kl. Kuisubulak
Vostaail
Djilinail
Bekerenku
Tsuryasume
Boldyunsume
Norumo
Nuru
Dalaikuk
Ikentalindzyaka
Kol.
Kol.
Kamintala
Tangaryuksume
R. Hakir
sodorga
Shiniguter
Ir. Arbangurbu
Suinnorail
Dabsat-nor
Djudzyan
Dju Dzyanail
Suburga (Obelisk)
Dzyaluimmodoail
Bologen
R. Cholo
Bayan Baishin
Aginsume
Sainkak
Shuguuntokoiail
Belyuikisume
Mengikesume
R. Laohe
Kuisu
R. Shiranmurin
Kukugilail
Shininsun
Tabingur (Oelgotu)
Madziadzia
Baitaodzya
Chweng
St. Maoshundun
Taba
Shiergudza
Shaoshiinza
Lushatuail
Dungashoi
Ekeroil
Madziadzyan
R. Naladuh
Idzvadzya
Shuanmko
Chjala
R. Kabotoho
Nanger
Maliger
Yingjing
Chi-fuin
Hoyai
Dufulu
Tweisanyintsz
Tatszyingtsz
Sunfatuen
Yunghoying
Langintsz
Lamalung
Hwangveafu
Shiyingtsz
Chujatuen
Shidzvadzya
Kirshidzya
Kirginbeiho
Malka
Sheapodenying
Kaujatuen
Shindi
Shantai
Sindien
Majayingdien
Hungtautsz
Wujaying
Lamatsz
Szejatsz
Chaojawopo
Weilaying
Szefangtai
Kuhwopun
Majawopo
Yimato
Wahlau
Wutaikou
Fanjadien
Fenseihwang
Linjadun
Haiyantsz
Niutoshemen
Ngokungfu
Nanliang
Batartsz
Kungvirfu
Chauto
Kwenduluen
Yehkwojtr
Malachengtsz
Fabilo
Marleintsz
Tungszeshejatsz
Kulachiwangdien
Shangerfan
R. Shipuh
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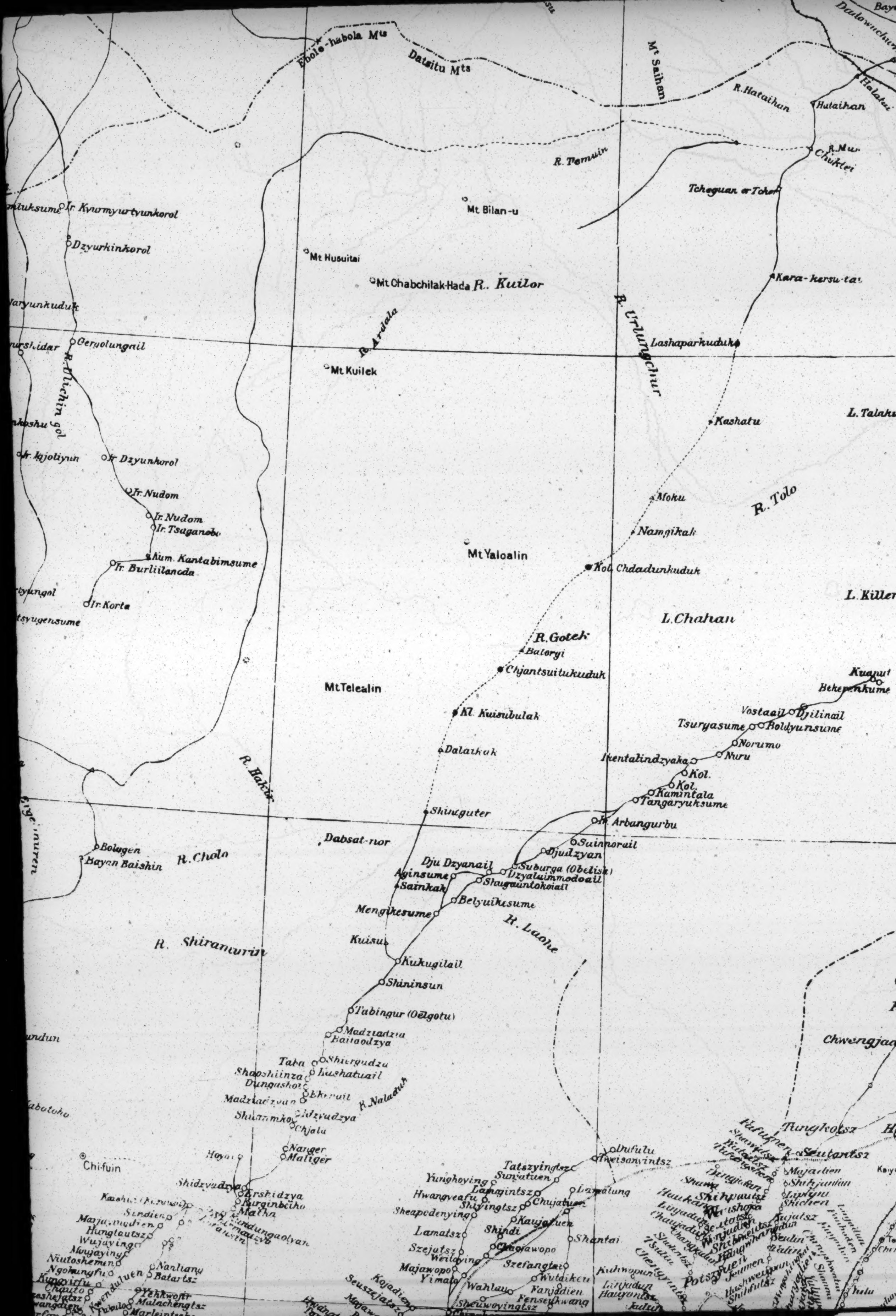

Ebole-habola Mts
Datsitu Mts
Mt Saihan
R. Hataihan
Hataihan
Halatai
Dadawuchen
R. Mu
Chuklei
R. Temuin
Tcheguan or Tcho
Mt Bilan-u
Ir. Kvurmyurtyunkorol
Dzyurkinkorol
Mt Husuitai
Mt Chabchilak-Hada
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Kara-kersu-tai
Jaryunkuduk
Geryolungail
R. Ardala
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R. Urlungchur
Lashaparkuduk
R. Ulchin gol
Kashatu
L. Talnh
Ir. Kajoliyun
Ir. Dzyunkorol
Ir. Nudom
Ir. Nudom
Ir. Tsaganobo
Moku
R. Tolo
Namgikak
Mt Yaloalin
Kum. Kantabimsume
Ir. Burliilanoda
Kol. Chdadunkuduk
Ir. Korte
tsyugensume
L. Chahan
L. Killer
R. Gotek
Batorgi
Chjantsuitukuduk
Mt Telealin
Kuanut
Bekepnkume
Kl. Kuisubulak
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Djilinail
Tsuryasume
Boldyunsume
Norumo
Dalarkok
Ikentalindzyaka
Nuru
Kol.
Kol.
R. Bakir
Kamintala
Tangaryuksume
Shiluguter
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Bologen
Bayan Baishin
R. Cholo
Dabsat-nor
Suinnorail
Djudzyan
Dju Dzyanail
Aginsume
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Suburga (Obelisk)
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Slaguunlokoiail
Belyuikesume
Mengikesume
R. Laohe
R. Shiranurin
Kuisuk
Kukugilail
Shininsun
Tabingur (Oelgotu)
Madziadzia
Baitaodzya
Chwengjag
Taba
Shitrgudza
Shaoshiinza
Lushatuail
Dungashok
Madziadzyan
Bkruil
R. Naladuk
Shuanmko
Idzyudzya
Chjalu
Nanger
Maliger
Chi-fuin
Hoyan
Dufulu
Tatszyingtsz
Weisanyintsz
Tungkotsz
Sewtantsz
Yunghoying
Sunjatuen
Hwangveafu
Lanagintsz
Lamatung
Shidzyudzya
Ershidzya
Kurginbciho
Malka
Sheapedenying
Shayingtsz
Chujatuen
Sindieng
Kaujatuen
Hunglautsz
Lamatsz
Shindi
Shantai
Wujaying
Maujaying
Niutoshemen
Szejatsz
Weilaying
Chaojawopo
Szefangtai
Ngokungfu
Majawopo
Yimato
Kwenduluen
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Batartsz
Wutaikcu
Kuhwopun
Chauto
Kojadien
Wahlau
Fanjadien
Linjadun
Haiyuntsz
Yehkwofir
Malachengtsz
Seuszejatsz
Sheuwoyingtsz
Fenseuhwang
Potszyuen
Shihpautsz
Majatien
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Seadin
Jeumen
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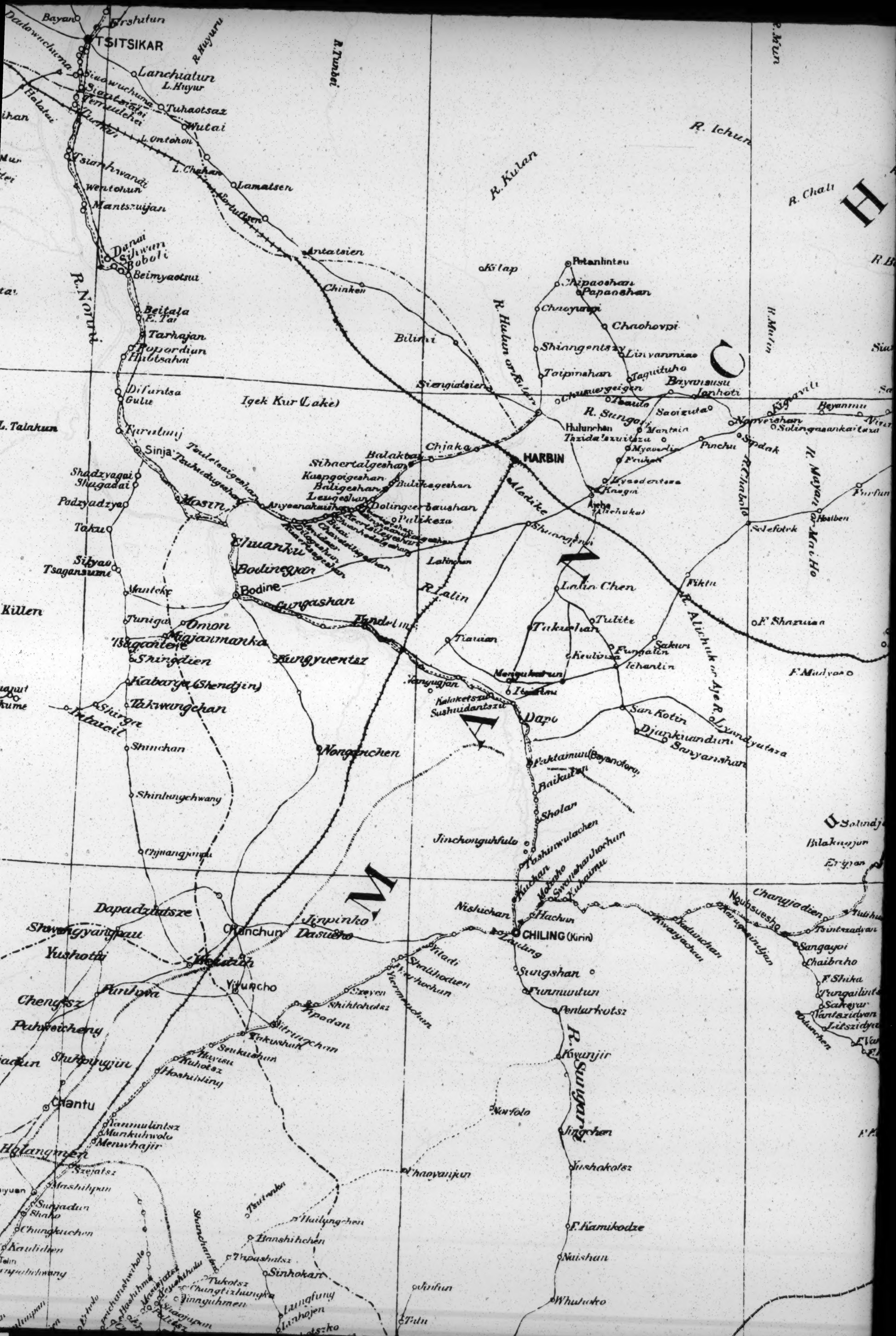
Shihfutsz
Hulu
Shuitatsz
Ngoyuen



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L. Chahan
Lamatsen
Tsianhwandi
Wentohun
Mantszuijan
Danai
Silwan
Boboli
Beimyaotsui
Beitala
F. Tai
Tarhajan
Popordiun
Hubtsahni
Difuntsa
Gulu
Sinja
Shadzygai
Shugadai
Padzyadzya
Taku
Silyao
Tsagansumi
Killen
L. Talahun
R. Noruni
R. Kulan
R. Ichun
R. Chali
H
Antatsien
Chinken
Bilimi
Kilap
R. Hulun or Kulan
Petanlintsu
Chipaoshan
Papaoshan
Chaoyumpi
Chaohovpi
Shiangentszy
Linvanmiao
Taipinshan
Taguituho
C
Siengiatsien
Igek Kur (Lake)
R. Sungari
Bayansusu
Janhoti
Kigavili
Bayanmu
Hulunchan
Mantain
Saoizuta
Nanveshan
Solingasankaitai
Chiaka
HARBIN
Balaktai
Sibaertalgeshan
Kuapgoigeshan
Baligeshan
Leugeslun
Bulikegeshan
Dolingeer
Baushan
Pulikeza
Mosin
Chuanku
Bodinegun
Bodine
Gungashan
Tandelin
Latinchen
R. Lalin
Aledike
Shuangtien
Ashe
Lalin Chen
Tulitz
Tukushan
Fungalin
Ichanlin
Sakun
Fiktu
R. Alichuk or Aje R.
Solefotok
R. Mayan or Mai Ho
F. Shazuian
F. Madyao
Omon
Tuniga
Tsagantele
Shingdien
Kabarga (Shendjin)
Takwangchan
Shinga
Shinchan
Shinlungchwang
Chjuanginni
Kungyuentsz
Nonganchen
Kalaketsza
Sushuidantszu
Dapo
A
San Kotin
Djankiandun
Sanyanshan
Lyandyutaza
Paktainwu
Bayanolory
Baikutan
Sholan
Jinchonguhfulo
Tashinwulachen
Swotshanhochan
Kuchan
Kuhaimu
Nishichan
Hachun
CHILING (Kirin)
Zaoding
Sungshan
Funmuntun
Penlurkotsz
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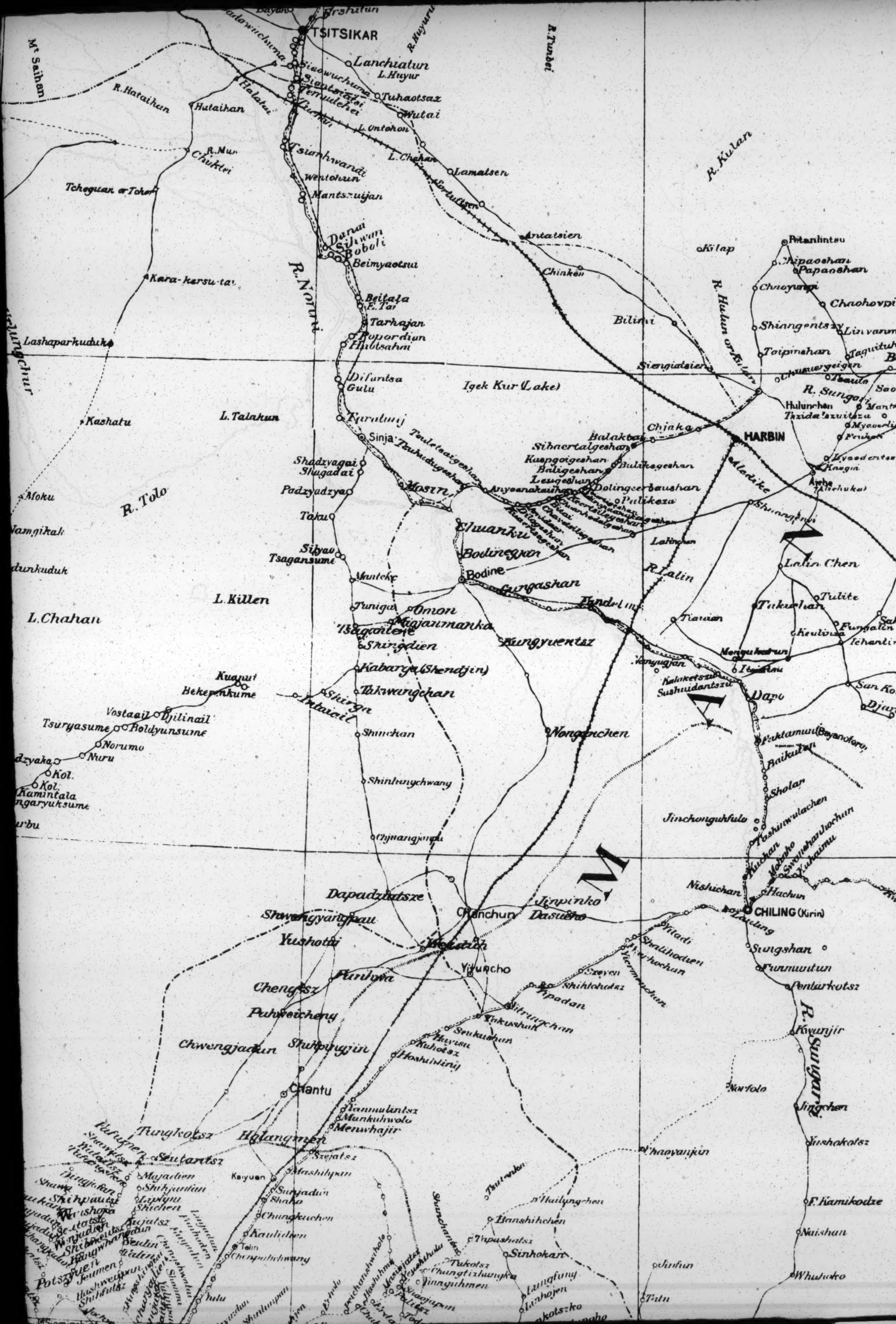
Dapadzuatsze
Shwangyangpau
Yushotu
Chenglsz
Pahweicheng
Shulpingjin
Chantu
Holangmen
Chunchun
Jinpinko
Dasueho
Yituncho
Yitadi
Shalihodien
Shihtohotsz
Kuashan
Sinkuchan
Seukuchan
Hoshiuling
Tanmulintsz
Munkuhwolo
Menuhajir
Chaoyanjun
Tsulunku
Hailungchen
Hanshihchen
Tapashatsz
Sinhokan
Jinhun
Langfung
Linhojen
Chungtiziungka
Jingguhmen
Tukotsz
Mashihpan
Sunjadun
Shako
Chungkuchen
Kaulidien
Szejatsz
R. Sungari
Kwanjir
Norfolo
Jingchan
Yushakotsz
F. Kamikodze
Naishan
Whulako
Changjadien
Neibsuesho
Tsintszadyan
Sangayoi
Chaibaho
F. Shika
Tungailintz
Litszidyan
U
Solindj
Bilaknajun
Erygan
Tulu
Kwanjachai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L. Huyur
Tuhaotsaz
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R. Hataihan
Hutaihan
Halatai
L. Ontohon
R. Mur
Chuktei
Tsianhwandi
Wentohun
L. Chahan
Lamatsen
R. Kulan
Tcheguan or Tcher
Mantszuijan
Sartuitsien
Antatsien
Danai
Silwan
Boboli
Beimyaotsui
Kilap
Pitanlintsu
Jipaoshan
Papaoshan
Kara-kersu-tai
Chinken
R. Hulan or Kular
Chaoyuan
Chaohovpi
R. Noruri
Beitala
E. Tai
Tarhajan
Poperdiun
Hubtsahni
Bilimi
Shiangentsz
Linvanm
Lashaparkuduk
Taipinshan
Taguituk
Siengiatsier
Chumergeigan
Taulo
R. Sungari
Difuntsa
Gulu
Igek Kur (Lake)
Hulunchen
Tszida'szuitsza
Kashatu
L. Talahun
Turulun
Sinja
Chjaka
HARBIN
Balaktai
Sibaertalgeshan
Kuspgoigeshan
Baligeshan
Leugeshan
Bulikegeshan
Dolingeerbaushan
Pulikeza
Alerike
Aiche
Ajichukai
Shadzyagai
Shagadai
Padzyadzya
Masin
Moku
R. Tolo
Taku
Eluanku
Bodinegaon
Latinchan
Shuangchengpu
Namgikali
Silyao
Tsagansume
Muntoke
Bodine
Gungashan
R. Lalin
Lalin Chen
Tulite
Dunkuduk
L. Killen
Tuniga
Omon
Migjanmanka
Tsagantete
Shingdien
Tandelung
Tiauan
Tukushan
Keulivia
Funaalin
Ichanlin
L. Chahan
Kungyuentsz
Kabargal (Shendjin)
Mengukatun
Kuapul
Bekepenkume
Takwangchan
Shirgn
Intaail
Kalaketsza
Sushuidantszu
Dapo
San Ko
Vostaail
Djilinail
Tsuryasume
Boldyunsume
Norumo
Nuru
Shinchan
Nonganchen
A
Paktamuni
Bayanoforo
Baikulan
Kol.
Kol.
Kamintala
Ngaryuksume
Shinlungchwang
Sholan
Jinchonguhfulo
Tashiwulachen
Urbu
Chjuangjonu
M
Kuchan
Makoho
Swanshanhochun
Kuhaimu
Nishichan
Hachun
CHILING (Kirin)
Dapadzlatsze
Shwangyangpau
Chanchun
Jinpinko
Dasuchao
Lauding
Yushotai
Weiaitin
Yiluncho
Itadi
Shalihodien
Yerunachan
Sungshan
Funmantun
Chengtsz
Funhwa
Szeyen
Shihtohotsz
Tapadan
Pentarkotsz
Pahweicheng
Tutrugchan
Tukushan
R. Sungari
Kwanjir
Chwengjadun
Shulpingjin
Seukushan
Hawsu
Kuhotsz
Hoshihling
Chantu
Narfolo
Tanmulantsz
Munkuhwolo
Menwhajir
Jingchan
Tungkotsz
Holangmen
Seutantsz
Szejatsz
Chaoyanjin
Yushakotsz
Kaiyuen
Mashihpun
Majadien
Shihjantun
Sunjadun
Shaho
Tsutanka
Hailungchen
F. Kamikodze
Chungkuchen
Hanshihchen
Naishan
Kaulidien
Telin
Chinpulinkwang
Thpushatsz
Sinhokan
Potszuen
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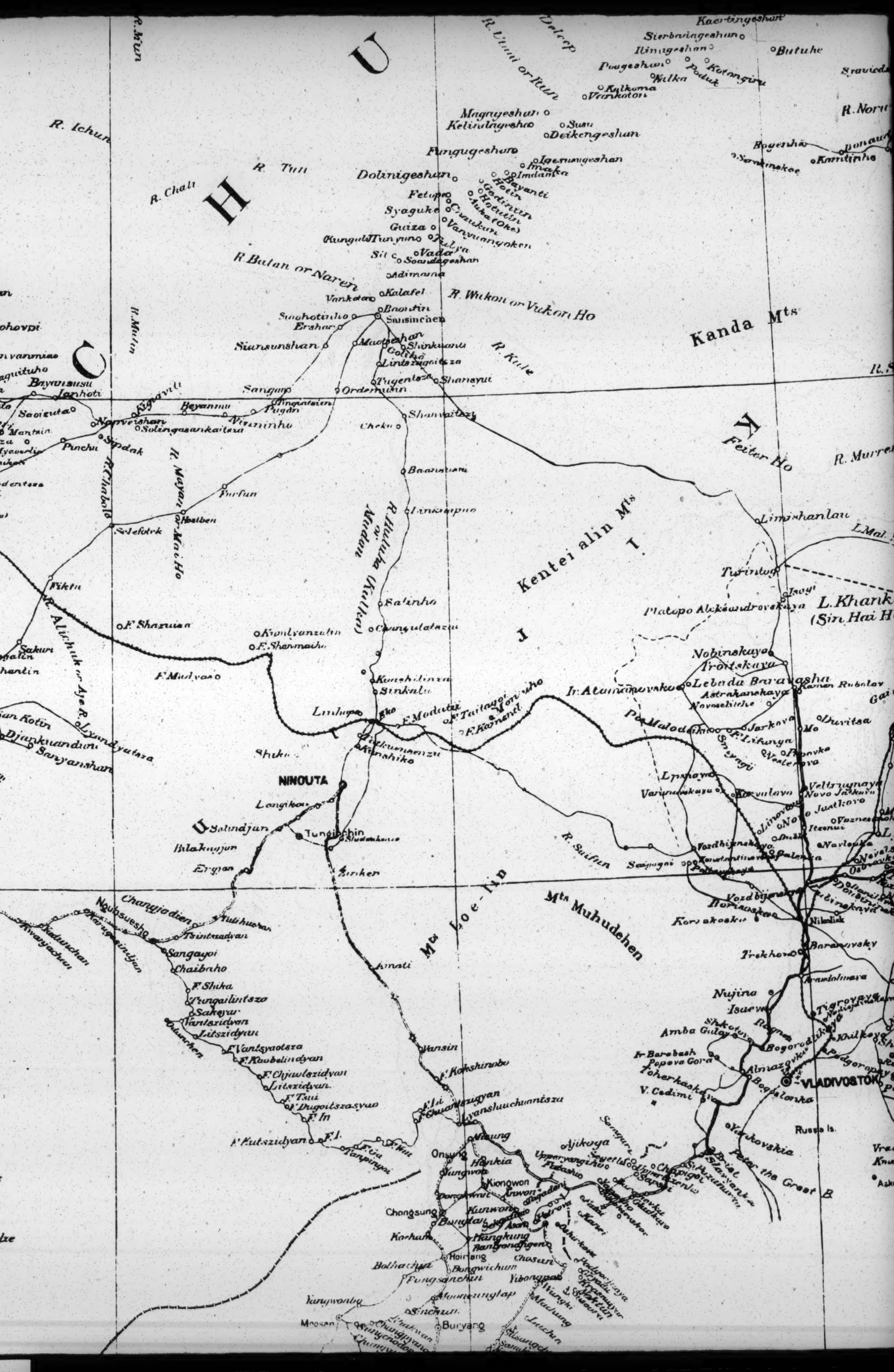
Jingqiuhmen
Junfun
Whulako
Lungfung
Liuhojen
Tulu
Sinminchun

XUM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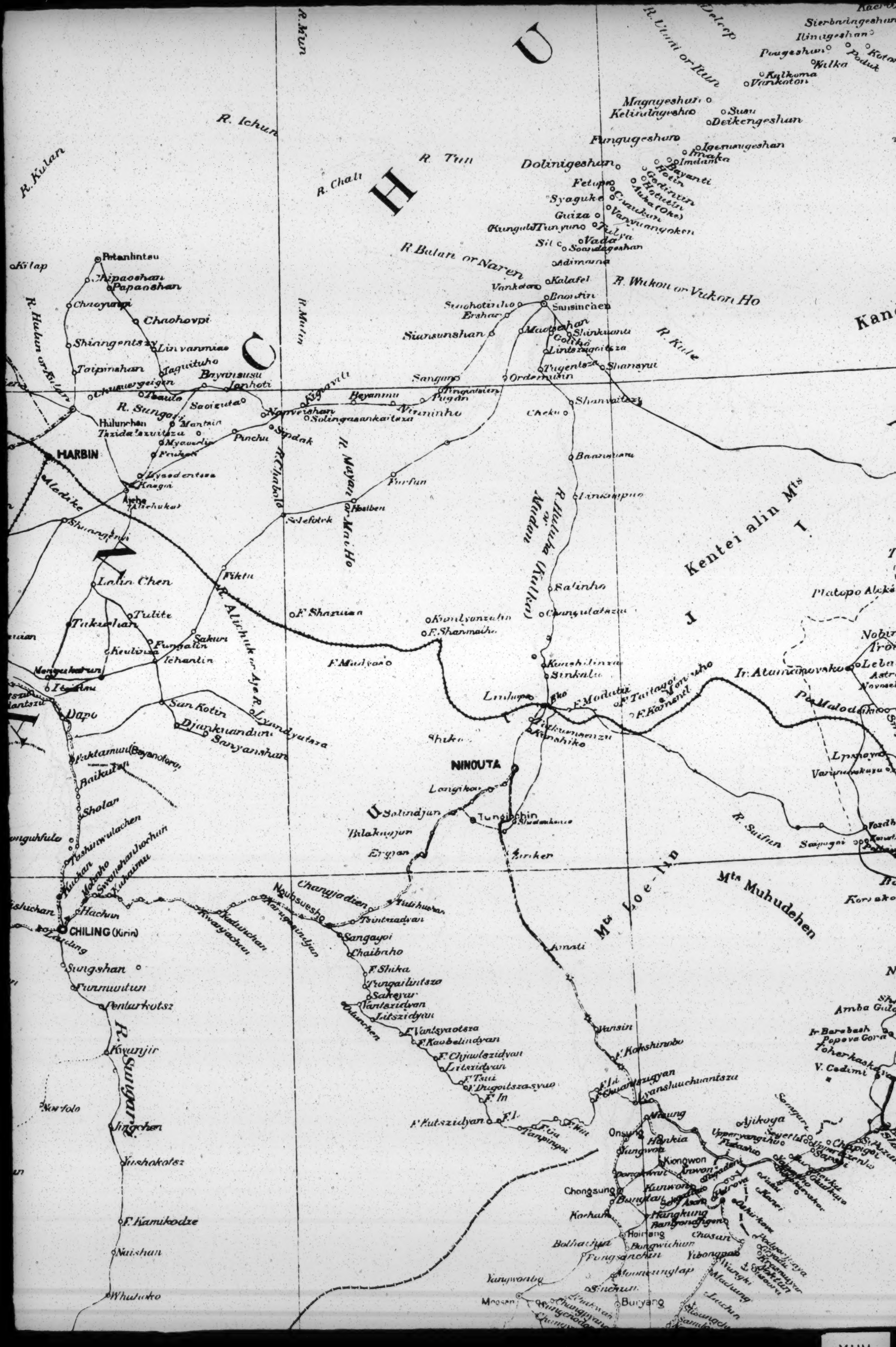
R. Kule
R. Mulin
R. Norin
Kanda Mts
Kentei alin Mts
Feiter Ho
R. Murren
L. Mal.
L. Khanka (Sin Hai Ho)
Mts Loe-lin
Mts Muhudehen
R. Suifun
R. Alichuk or Aje R.
R. Chabold
R. Mayan or Mai Ho
R. Hulaha or Mudan (Hurka)
Sierbangeshan
Ilinageshan
Butuhe
Magageshan
Dolinigeshan
Baoutin
Sansinchen
Maotoshan
Siansunshan
Sangun
Ordemulin
Shanvailotz
Banmutun
Satinho
Linhupo
Eko
F. Modatai
F. Taitogoi
F. Kamenel
Shikuo
NINOUTA
Langikou
Solindjan
Tundinchin
Ergan
Amsti
Yansin
F. Kohshinnbo
Lyansluchuantsza
Onsung
Hankia
Kiongwon
Chongsung
Hoirieng
Yangwonbo
Moosan
Buryang
Turintog
Platopo Alekeandrovskaya
Nobinskaya
Troitskaya
Lebada Baravasha
Astrakanchaya
Novoselitche
Tr. Atamanovsko
Po. Molodejno
Jarkova
Linovsk
Voznesenka
Nikolsk
Baranovsky
Korsakovka
Trekhov
Nujina
Isaev
Amba Gulay
Shkotovo
Bogorodskaya
Almazovka
Tigrovaya
Khilkovo
VLADIVOSTOK
Russia Is.
V. Cedimi
Fr. Barabash
Popova Gora
Tcherkaska
Peter the Great B.
Chapigo
Brial
Skazavanka
Vankovskia


M
A
N
C
H
U
R
I
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R. Kulan
R. Ichun
R. Mun
R. Tun
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R. Bulan or Naren
R. Wukon or Vukon Ho
R. Kule
R. Hulun or Fulan
R. Mulin
R. Sungari
R. Chabald
R. Mayan or Mai Ho
R. Hulaha or Mudan (Kalka)
R. Alichuk or Aje R.
R. Suifun
R. Sungari
Kentei alin Mts
Mts Loe-lin
Mts Muhudehen
Kilap
Potanlintsu
Chipaoshan
Papaoshan
Chaoyuapi
Chaohovpi
Shiangentszy
Linvanmiao
Taipinshan
Taguituho
Bayansusu
Jenhoti
Tsauto
Saoizuta
R. Sungari
HARBIN
Hulunchan
Tszida'azuitszu
Mantain
Myaoerlin
Pinchu
Sindak
Aleshe
Aicha
Alichukal
Shuanghoi
Lalin Chen
Tulite
Takushan
Fungalin
Ichantin
Sakun
Kealinia
Menguketun
Itaihou
Dapo
San Kotin
Djangkuandun
Sanyanshan
Lyandyatsza
Faktamuu
Bayanoloro
Baikutun
Sholan
Tashinwulachen
Kuchan
Hachun
CHILING (Kirin)
Lialing
Sungshan
Funmuwtun
Pentarkotsz
Kwanjir
Narfolo
Jingchen
Jushakotsz
F. Kamikodze
Naishan
Whuluko
Fiktu
Selefotek
Furfun
F. Shazuian
Kunlyanzalin
F. Shanmaiho
F. Mudyao
Sangan
Bayanmu
Pugan
Vitsuninho
Naavershan
Kiganili
Solingasankaitsza
Siansunshan
Ershan
Suohotinho
Vankdao
Kalafel
Baoutin
Sansinchen
Maoeshan
Shinkuanu
Golihō
Lintszagaitsza
Tugentsze
Shansyui
Ordemuan
Shansaitszy
Cheku
Baanumu
Linkaipuo
Salinho
Changulatszu
Kanshilinza
Sinkalu
Linlupo
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F. Modutai
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Monguho
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Pickuensenzu
Kanshiko
Shiko
NINOUTA
Langikan
Tungsichin
Solindjun
Bilakugjun
Erguan
Zirken
Changjadien
Nubsuesho
Tulihuran
Tsintszadyan
Kadunchan
Kwayachun
Sangayoi
Chaibaho
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Fungailintsza
Sanjyar
Vantszidyan
Litszidyan
Odunchen
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Litszidyan
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F. Kutszidyan
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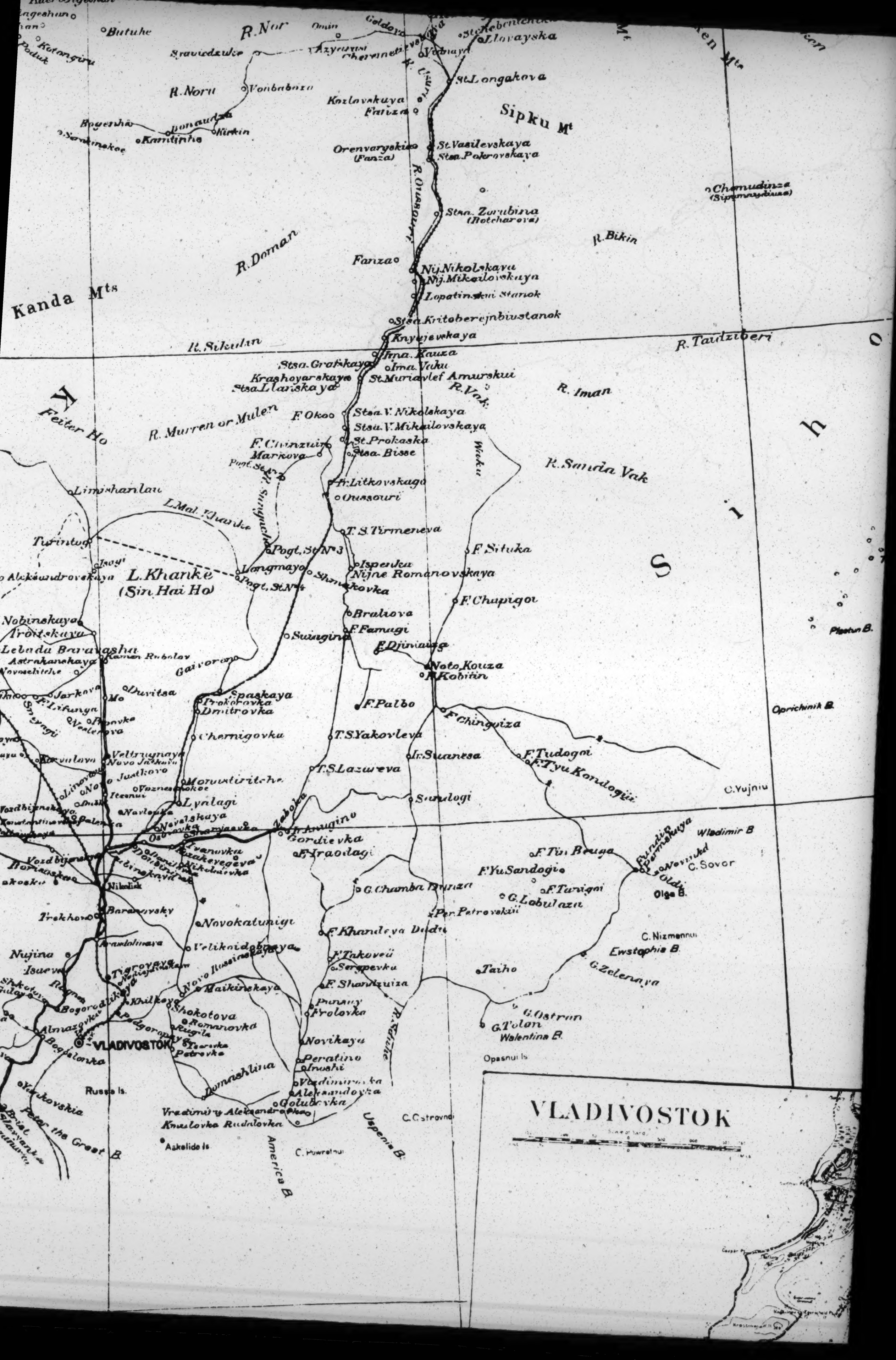
F. Gu
Tanpingoi
Amsti
Vansin
F. Kohshinsbo
F. Chuanyangyan
Lyanshuuchuantsza
Naunng
Onsung
Hankia
Yangwon
Kiongwon
Tongchun
Kunwon
Chongsung
Bungtan
Korham
Hangkung
Hoireng
Bolhachya
Bungwichun
Chasun
Yibongpo
Tongsanchin
Mooteunglap
Yangwondo
Sinchun
Moosan
Buryang
Chunganghen
Ajikoga
Magayeshan
Kelinlingesho
Susu
Deikengeshan
Fungugeshan
Igesmugeshan
Imaka
Imdani
Dolinigeshan
Bayanti
Hotin
Gedintin
Fetopo
Syaguke
Chauhun
Auka (Oke)
Guiza
Vanyuangoken
Kungulu Tunyuno
Vada
Tulya
Sil c.
Soandageshan
Adimauna
Sierbaingeshan
Ilinageshan
Poageshan
Poduk
Kotor
Vilka
Kalkoma
Vankoton
Kaero
Kano
Platopo Alekse
Nobir
Lebe
Ir. Atamanovsko
Po. Molodchno
Lpshoyo
Varyuankuzo
Saipogai
Vozdh
Korsakovo
Amba Gulo
Ir. Barabash
Popova Gora
Poharkasko
V. Cedimi
Samfun
Seyerlis
Chiagepoi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Kotongiru
Poduk
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Goldery
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Sravidzuko
Llovayska
Vobiayd
St. Longakova
R. Noru
Vonbaboza
Kozlovskaya
Fatiza
R. Ussuri
Sipku Mt
Bogesha
Donautza
Kirkin
Kamtinhe
Sontinskoe
Orenvaryskio (Fanza)
St. Vasilevskaya
Stsa. Pokrovskaya
R. Oussouri
Chemudinza
Sta. Zorubina (Botcharova)
R. Bikin
R. Doman
Fanza
Nij. Nikolskaya
Nij. Mikailovskaya
Lopatinskui Stanok
Kanda Mts
Stsa. Kritoberejnbiustanok
Knyajevskaya
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R. Taidziberi
Ima. Kauza
Stsa. Grafskaya
Ima. Vaku
Krashoyarskaya
St. Muriavlef Amurskui
Stsa. Llarskaya
R. Vak
R. Iman
K
Feiter Ho
R. Murren or Mulen
F. Oko
Stsa. V. Nikolskaya
Stsa. V. Mikailovskaya
F. Chinzuiz
St. Prokaska
Markova
Stsa. Bisse
Pogt. St. N
R. Sungacha
Fr. Litkovskago
Oussouri
R. Sanda Vak
Limishanlau
L. Mal. Khanka
h
Turintog
T. S. Tirmeneva
i
Pogt. St. N° 3
F. Situka
Isoyi
Langmayo
Ispenka
Nijne Romanovskaya
S
L. Khanke (Sin Hai Ho)
Pogt. St. N° 4
Shmakovka
Aleksandrovskaya
F. Chapigoi
Nobinskaya
Troitskaya
Braliova
Suinguio
F. Famagi
Plastun B.
Lebada Baravasha
F. Djiniauza
Kamen Rubolov
Astrakhanskaya
Gaivoron
Noto Kouza
F. Kobitin
Novoselitche
Jarkova
Duvitsa
F. Lifunga
Spaskaya
Prokrovka
Dmitrovka
F. Palbo
Oprichinik B.
F. Chinguiza
Chernigovka
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Veltrugnaya
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Korsakova
Novo Justkovo
Linovo
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F. Tudogoi
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T. S. Lazureva
Moruntziritche
Vozneseskoe
Lyalagi
Sandogi
C. Vujniu
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Navlovka
Nevelskaya
Zaboka
Krougino
Wladimir B.
Osinovka
Gordievka
Vozdbijenka
Ivanovka
F. Iraodagi
F. Tin Brugo
Fundin
Permskaya
Borisovka
Kazakevegeva
Novinka
Nikolaevka
F. Yu Sandogi
C. Sovor
Oldi
Nikolsk
G. Chamba Dunza
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Olga B.
G. Lobulaza
Baranovsky
Per. Petrovskii
Trekhov
Novokatunigi
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Nujina
Veliknidobroya
Ewstaphie B.
Isaev
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Tigrovaya
Novo Russinskaya
Sergeevka
Taiho
G. Zelenaya
Shkotova
F. Shandzuiza
Maikinskaya
Bogorodskaya
Khilkova
Shokotova
Punauy
Frolovka
G. Ostrov
G. Tolon
Almazovka
Podgornaya
Romanovka
Valentina B.
Rugila
Novikaya
VLADIVOSTOK
Tserska
Petrovka
Bogdalovka
Peratino
Opasnui Is.
Lomashlina
Inushi
Vladimirovka
Aleksandrovka
Russe Is.
Golubovka
Yarkovskia
Vrezdmirg Aleksandrovka
Knazlovka Rudalovka
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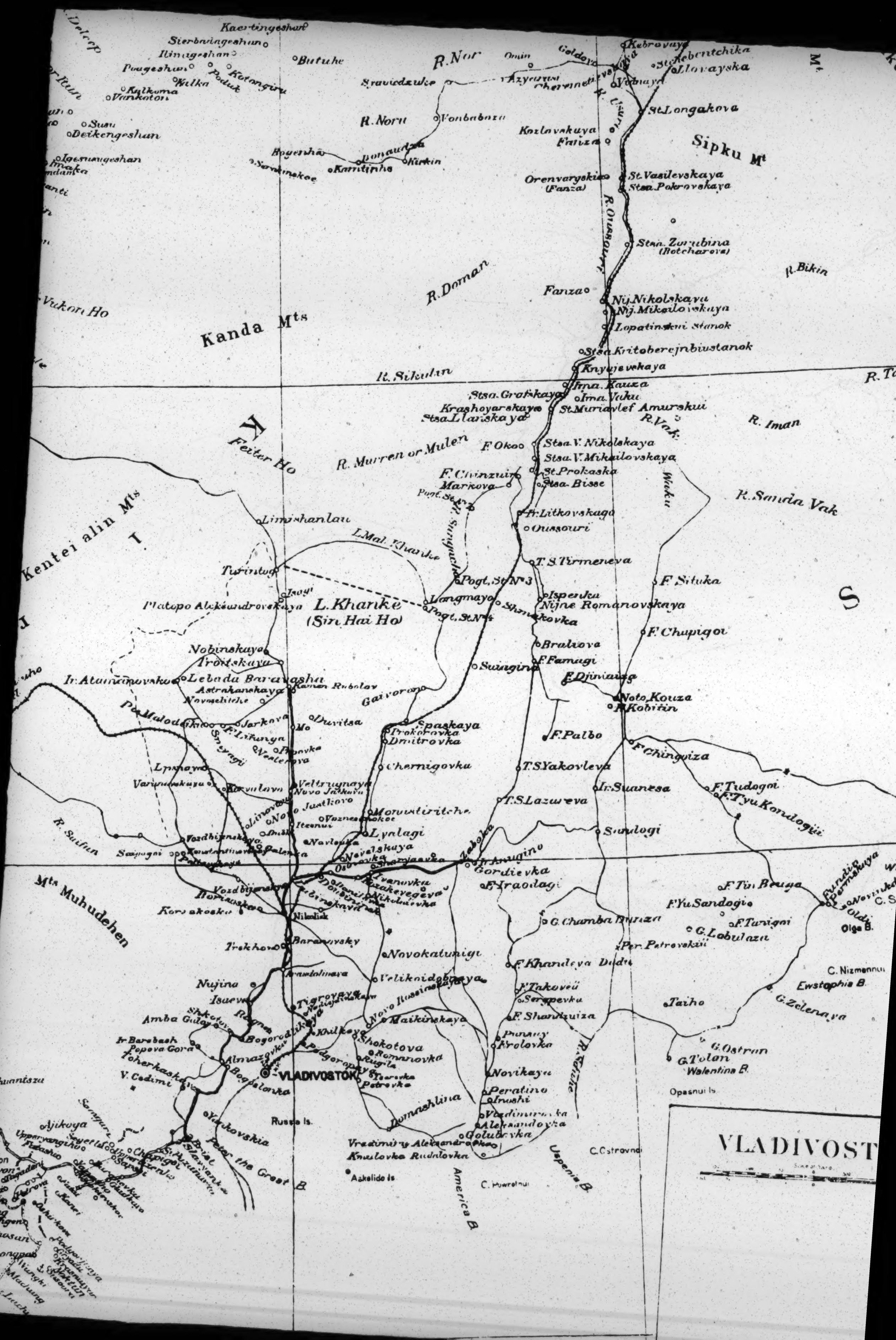
Askelido Is.
America B.
C. Povrotnui
VLADIVOSTOK
Scale of yards



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Sierbaingeshan
Ilinageshan
Butuhe
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Omin
Goldovo
Kebrovaya
St. Kebentchika
Llovayska
Pougeshan
Kotongiru
Wilka
Poduk
Sravidzuke
Azyanusi
Chervinetskaya
Vodnaya
Kalkoma
Vankoton
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St. Longakova
Susu
Deikengeshan
R. Noru
Vonbabaza
Kozlovskaya
Fanza
Sipku Mt
Iaesuangeshan
Bogersha
Donaudza
Kirkin
Kamtinhe
St. Vasilevskaya
Stsa. Pokrovskaya
Orenvaryskie (Fanza)
R. Oussouri
Stsa. Zorubina (Botcharova)
R. Bikin
R. Doman
Fanza
Vukon Ho
Nij. Nikolskaya
Nij. Mikailovskaya
Lopatinskui Stanok
Kanda Mts
Stsa. Kritoberejnbiustanok
Knyajevskaya
R. Sikulin
Ima. Kauza
R. Ta
Stsa. Grafskaya
Ima. Vaku
Krashoyarskaya
St. Muriavlef Amurskui
Stsa. Llarskaya
R. Vak
R. Iman
K
Feiter Ho
F. Oko
Stsa. V. Nikolskaya
R. Murren or Mulen
Stsa. V. Mikailovskaya
St. Prokaska
F. Chinzuir
Markova
Stsa. Bisse
Wuku
R. Sanda Vak
Pogt. St. N°2
R. Sungacha
Fr. Litkovskaga
Kentei alin Mts
Liminshanlau
Oussouri
I
L. Mal. Khanke
T.S. Tirmeneva
Turintog
Pogt. St. N°3
F. Situka
Langmayo
Ispenka
S
Platopo Aleksandrovskaya
L. Khanke (Sin Hai Ho)
Pogt. St. N°4
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J
F. Chupigoi
Nobinskaya
Braliova
Troitskaya
Sviagino
F. Famagi
Ir. Atamanovsko
Lebada Baravasha
Kamen Rubolov
F. Djiniauza
Astrakhanskaya
Gaivoron
Noto Kouza
Novoselitche
F. Kobitin
Po Malodino
Jarkova
Davitsa
Spaskaya
F. Likunga
Mo
Prokorovka
Dmitrovka
F. Palbo
Snyngji
Popovka
Vesterova
F. Chingoiza
Lpnaw
Chernigovka
T.S. Yakovleva
Varunovskaya
Veltrunaya
Barvalova
Novo Jakuna
Ir. Suanesa
F. Tudogoi
F. Tyu Kondogiu
Novo Justkovo
T.S. Lazureva
Linovoka
Monastiritche
Itcenui
Voznesenskoe
Lyalagi
Sandogi
R. Sufun
Saipogai
Vozdhijenskaya
Navlovka
Novelskaya
Zabolka
Pokrovka
Osbovka
Shmjaevka
Kruogino
Gordievka
F. Tin Beuga
Mts Muhudehen
Vozdbijenska
Ivanovka
Kazakevegeva
Danilovka
Nikolsrvka
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F. Yu Sandogi
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Borisovka
Korsakovka
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G. Lobulaza
Olga B.
Oldi
C. S
Trekhov
Baranovsky
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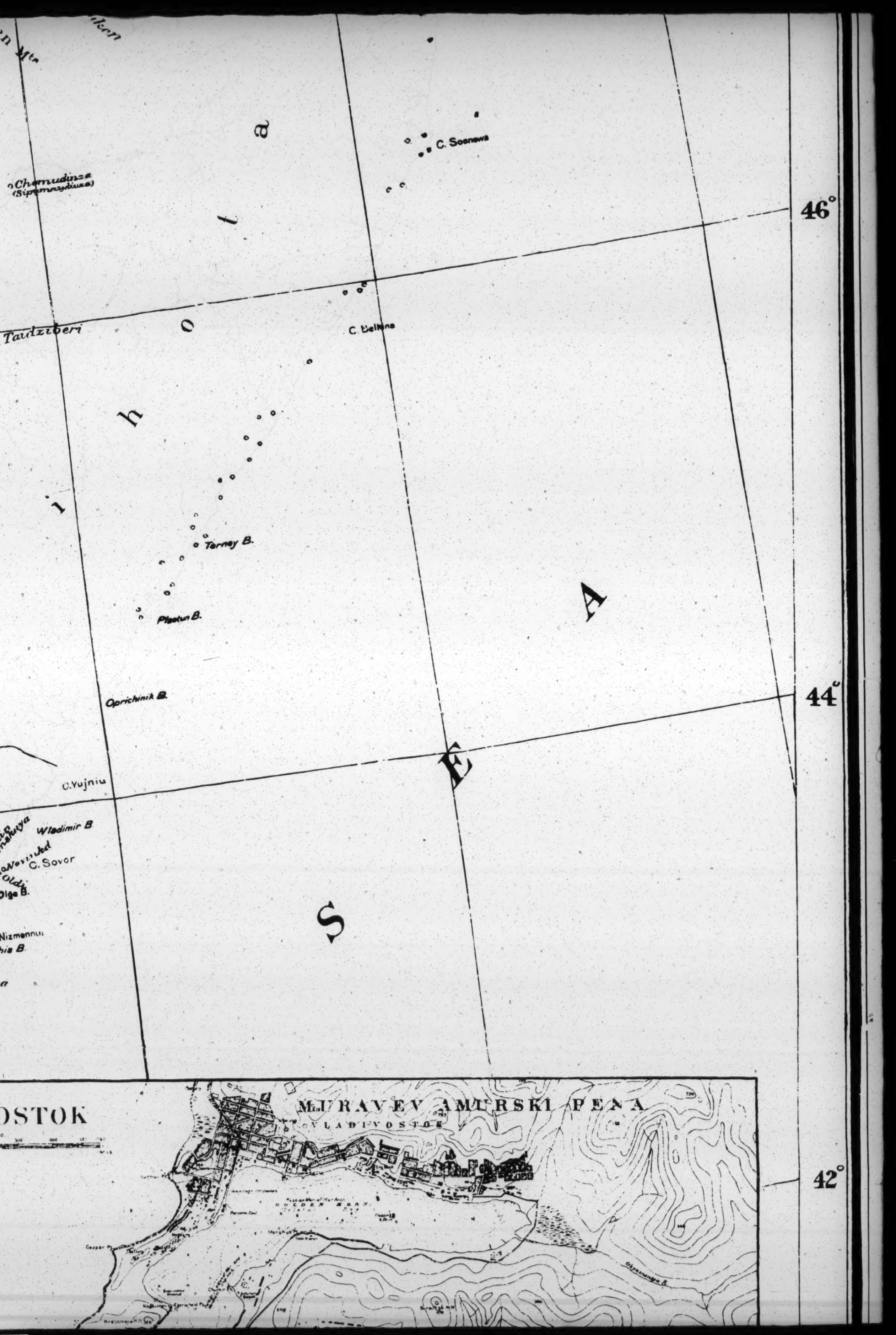
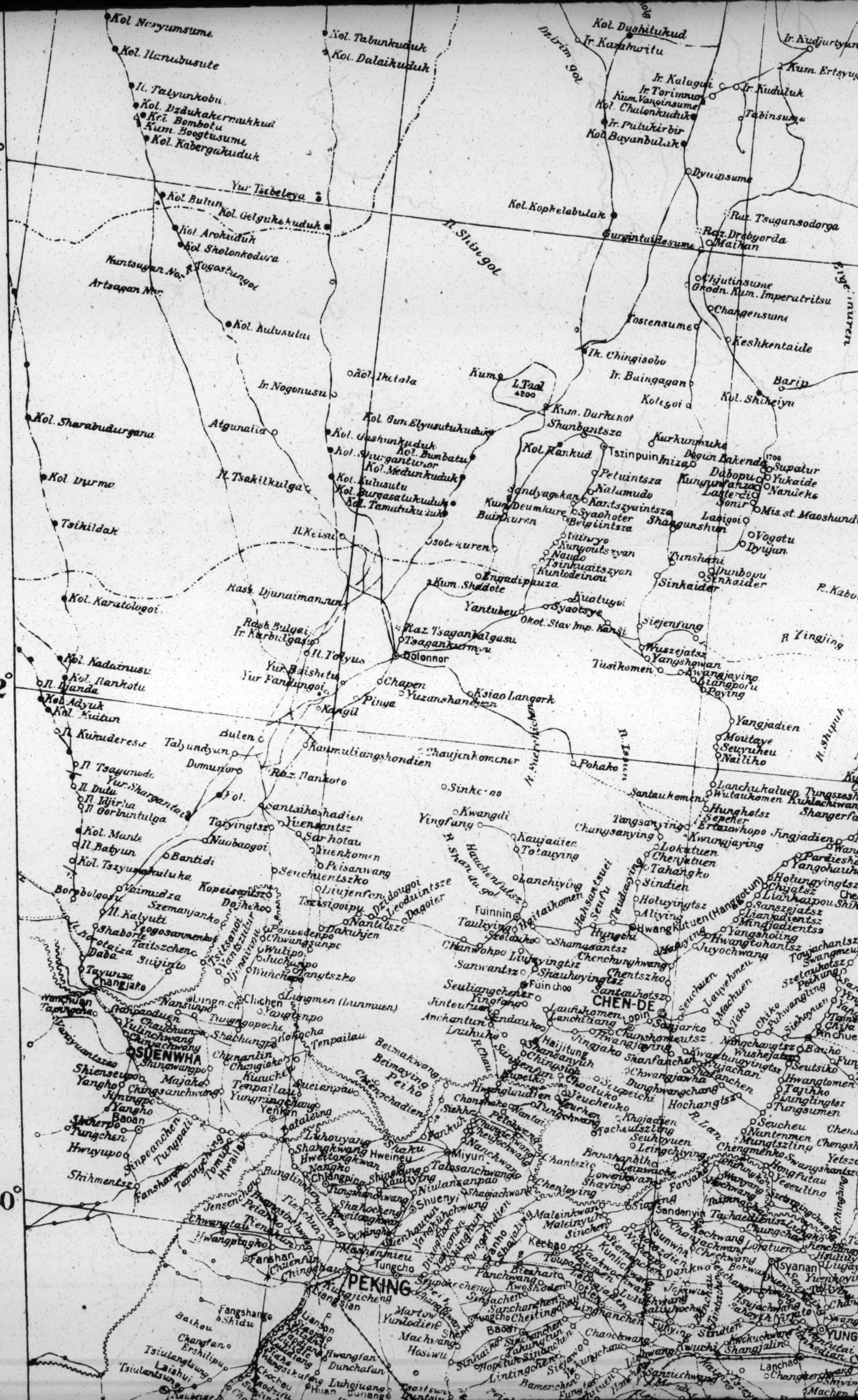
Nujina
Velikoidobraya
Ewstaphia B.
Isaeva
Tigrovaya
F. Takovei
Taiho
G. Zelenaya
Shokotova
Novo Russinovskaya
Serapevka
Amba Gulay
Maikinskaya
F. Shandzuiza
Ir. Barabash
Popova Gora
Bogorodskaya
Khilkova
Shokotova
Punauy
Frolovka
R. Sudzhe
G. Ostron
Tcherkaskaya
Almazovka
Podgornoye
Romanovka
G. Tolon
Walentina B.
V. Cedimi
Bogolovka
VLADIVOSTOK
Rugila
Petrovka
Novikaya
Peratino
Opasnui Is.
Russia Is.
Domashlina
Inoshi
Yankovskia
Vladimirovka
Aleksandrovka
VLADIVOST
Ajikoya
Golubovka
Chapigai
Slavianka
Peter the Great B.
Vrasimiry Aleksandrovka
Knualovka Rudnlovka
C. Ostrovnoi
America B.
Uspenia B.
Askelide Is.
C. Powrotnui
Scale of Versts

C. Sosnowa
Chemudinza
(Sipymnydiuza)
46°
a
t
Taudziberi
o
C. Belkina
h
i
Terney B.
Plastun B.
A
Oprichinik B.
44°
E
C.Vujniu
Wladimir B
C. Sovor
Olga B.
Nizmennui
S
OSTOK
MURAVEV AMURSKI PENA
VLADIVOSTOK
GOLDEN HORN
Krestovaya Hill
42°


44°
42°
40°
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Kol. Ilanubusute
Il. Talyunkobu
Kol. Dzdukahernukkud
Kol. Bombotu
Kum. Boogtusume
Kol. Kabergakuduk
Kol. Tabunkuduk
Kol. Dalaikuduk
Dzirim gol
Kol. Dushitukud
Ir. Karatwitu
Ir. Kudjurtyn
Kum. Ertsyg
Ir. Kalugai
Ir. Torimnu
Kum. Vanginsume
Kol. Chalonkuduk
Ir. Kuduluk
Tabinsume
Ir. Pulukirbir
Kol. Buyanbuluk
Dyuinsume
Yur Tsibeleya
Kol. Bulun
Kol. Gelgukekuduk
Kol. Arohuduk
Kol. Sholonkodura
Il. Shin gol
Kol. Kophelabulak
Gurgintuidesume
Raz. Tsugansodorga
Raz. Drabyorda
Maihan
Kuntsugan Nor
R. Togastungol
Artsagan Nor
Cljutinsume
Grodn. Kum. Imperatritsu
Changensume
Tostensume
Keshkentaile
Kol. Kulusutai
Ih. Chingisobo
Ir. Buingagan
Kums
L. Taal
4200
Kolegoi
Barip
Kol. Shikeiyu
Ir. Nogonusu
Kol. Ikutala
Kol. Sharabudurgana
Atgunaiia
Kol. Gun Elyusutukuduk
Kol. Gushunkuduk
Kol. Durgantuvor
Kol. Bumbatu
Kol. Medunkuduk
Kum. Durkunot
Shanbantsza
Kol. Rankud
Tszinpuin
Kurkunmuka
Iniza
Dogun Bakenda
1700
Supatur
Dabopu
Yukaide
Kol. Durmo
Il. Tsakilkulga
Kol. Kulusutu
Kol. Burgasatukuduk
Kol. Tamutukuzuk
Petuintsza
Kalumudo
Kunyunfanza
Lanterdi
Nanieke
Sonir
Sandyagekan
Kum Deumkure
Kantszyuintsza
Syaohoter
Buinkuren
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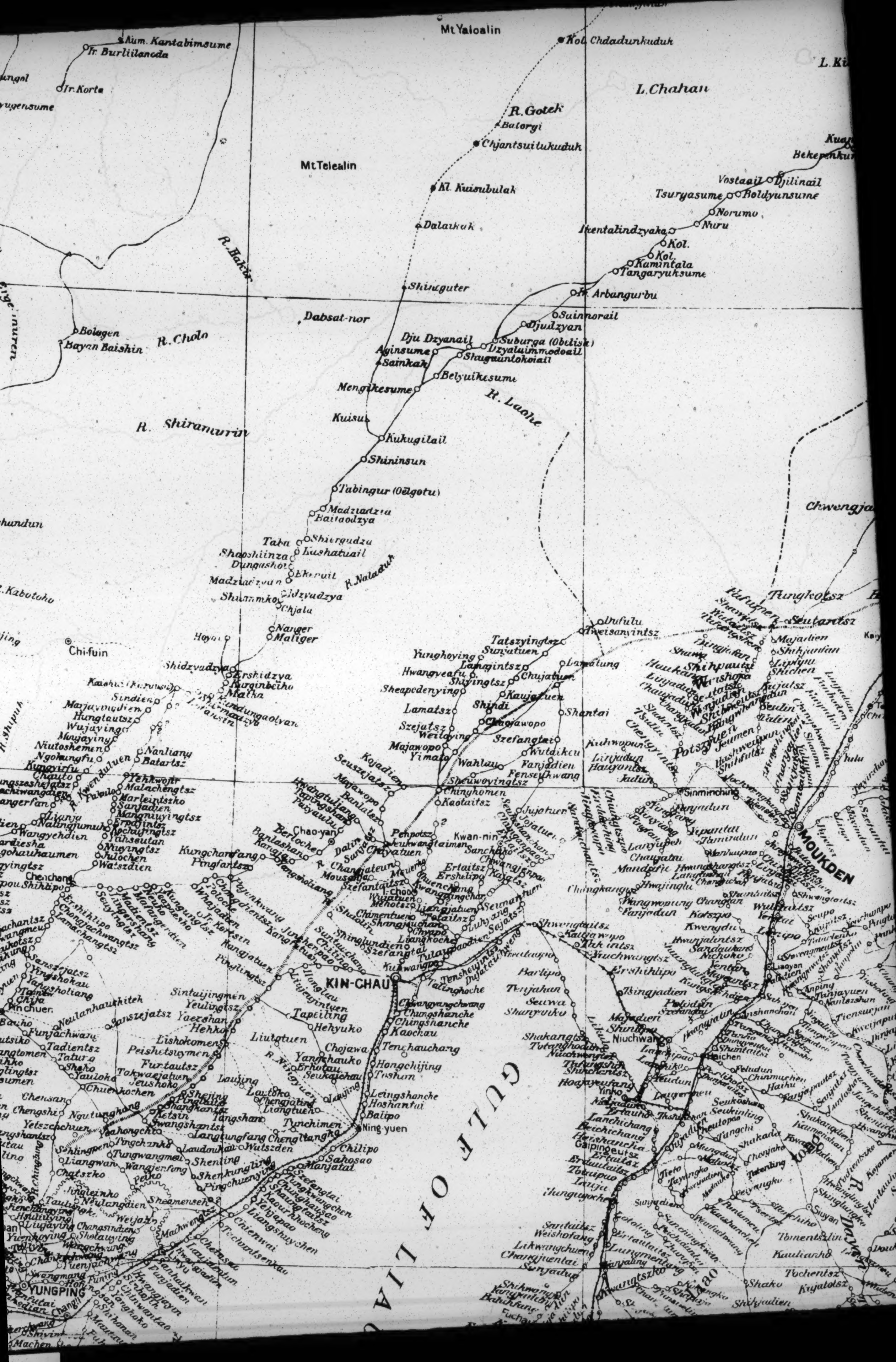
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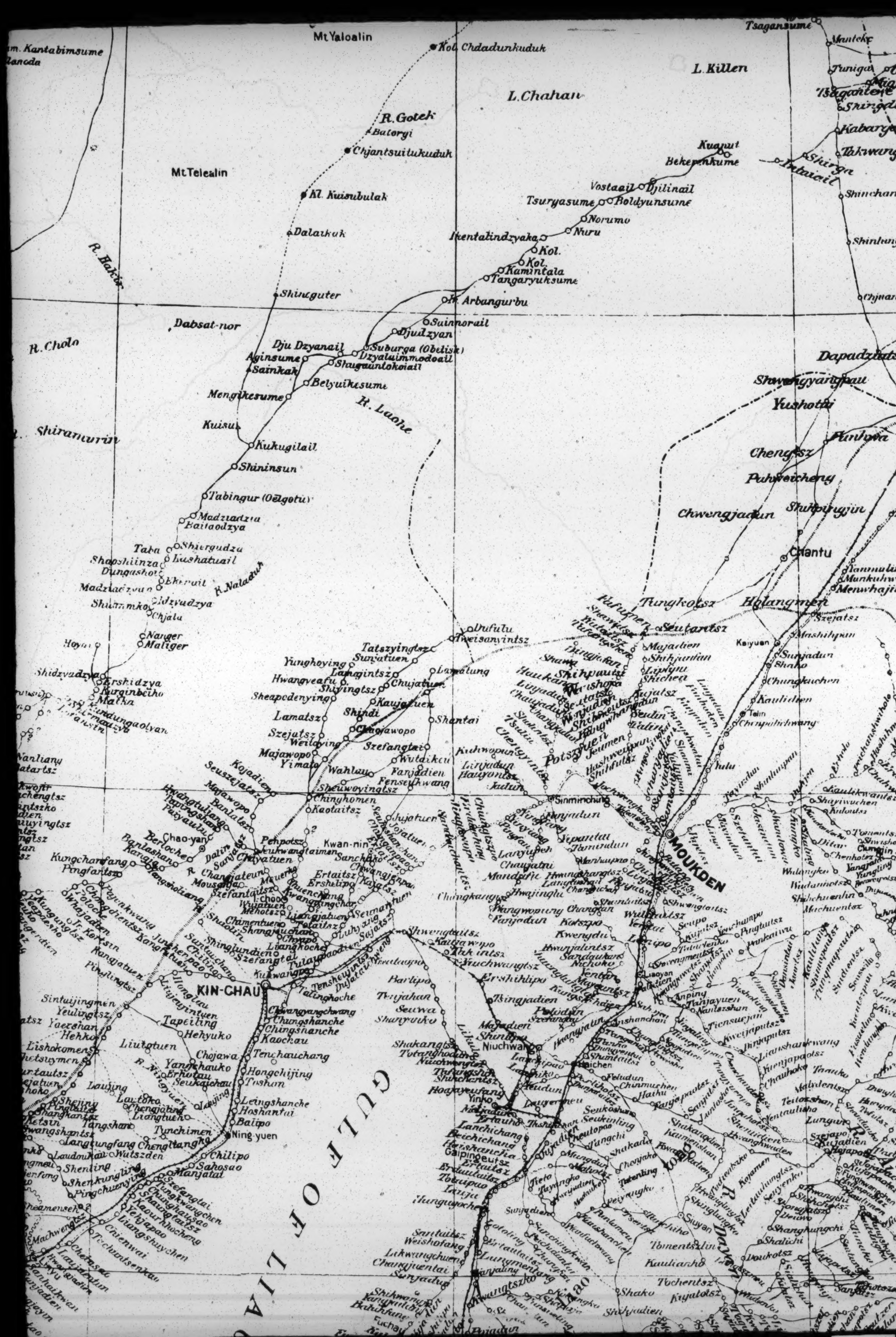
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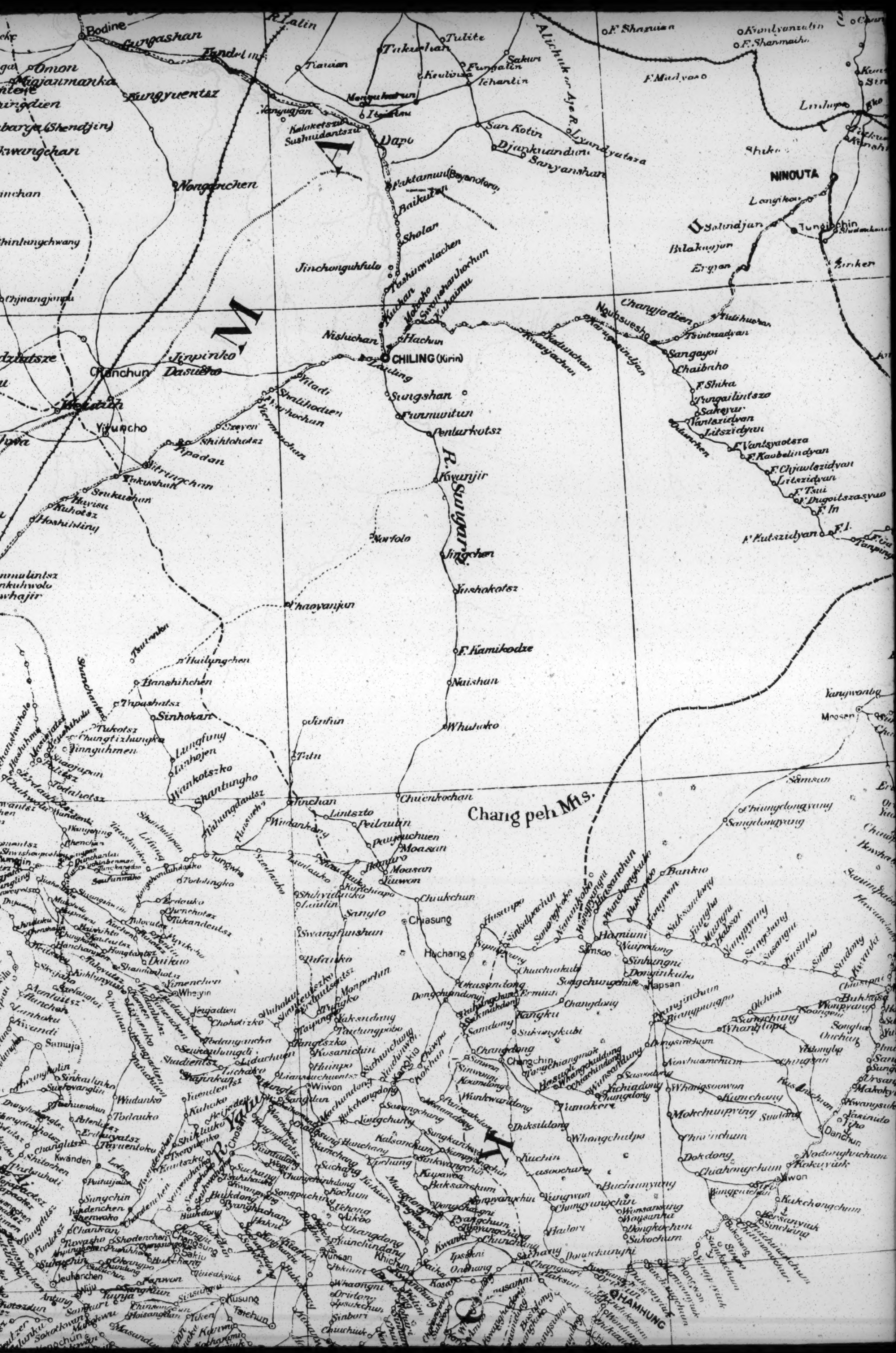
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Mongukatun
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Sangayoi
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Kwangschan
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Nishichan
Hachun
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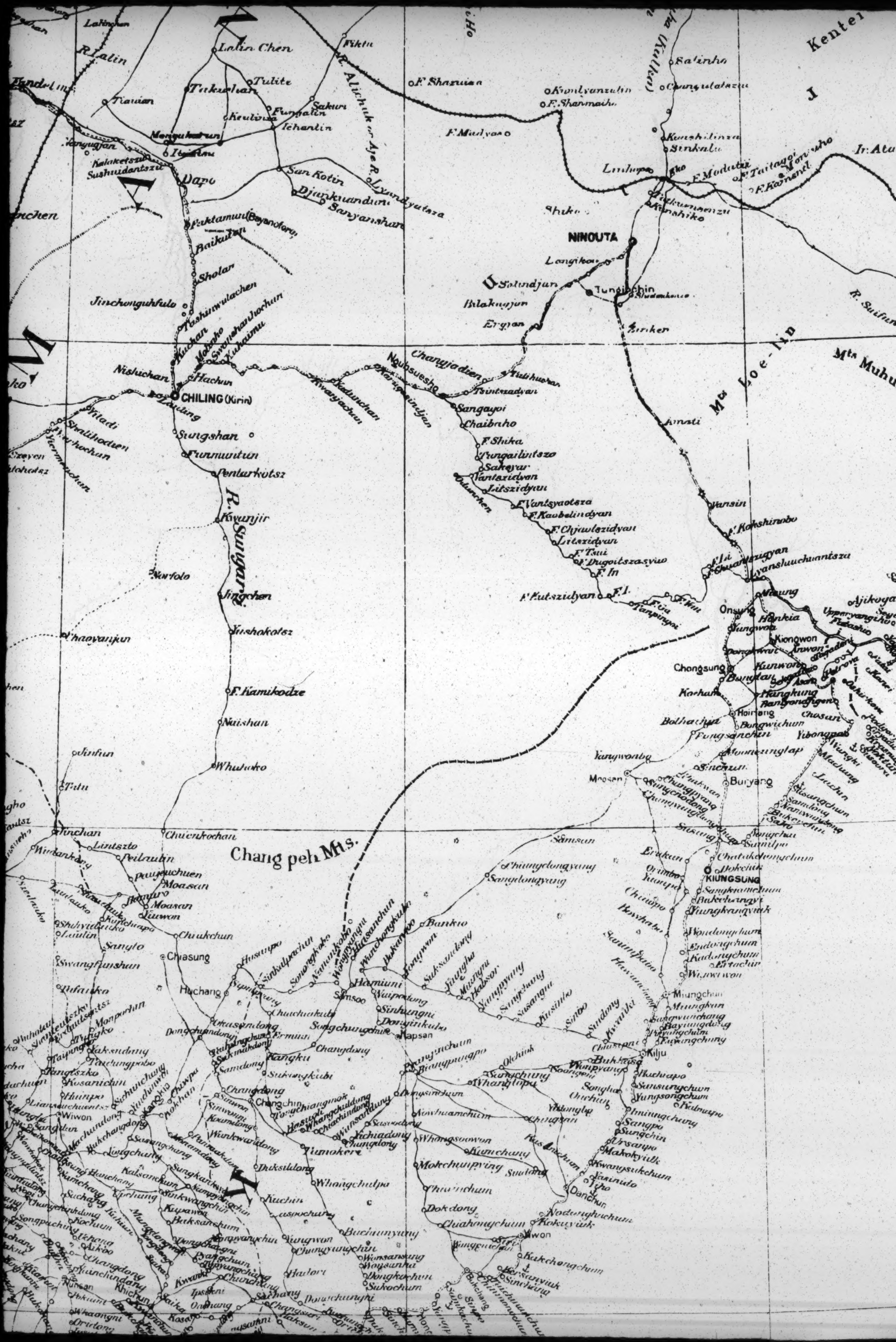

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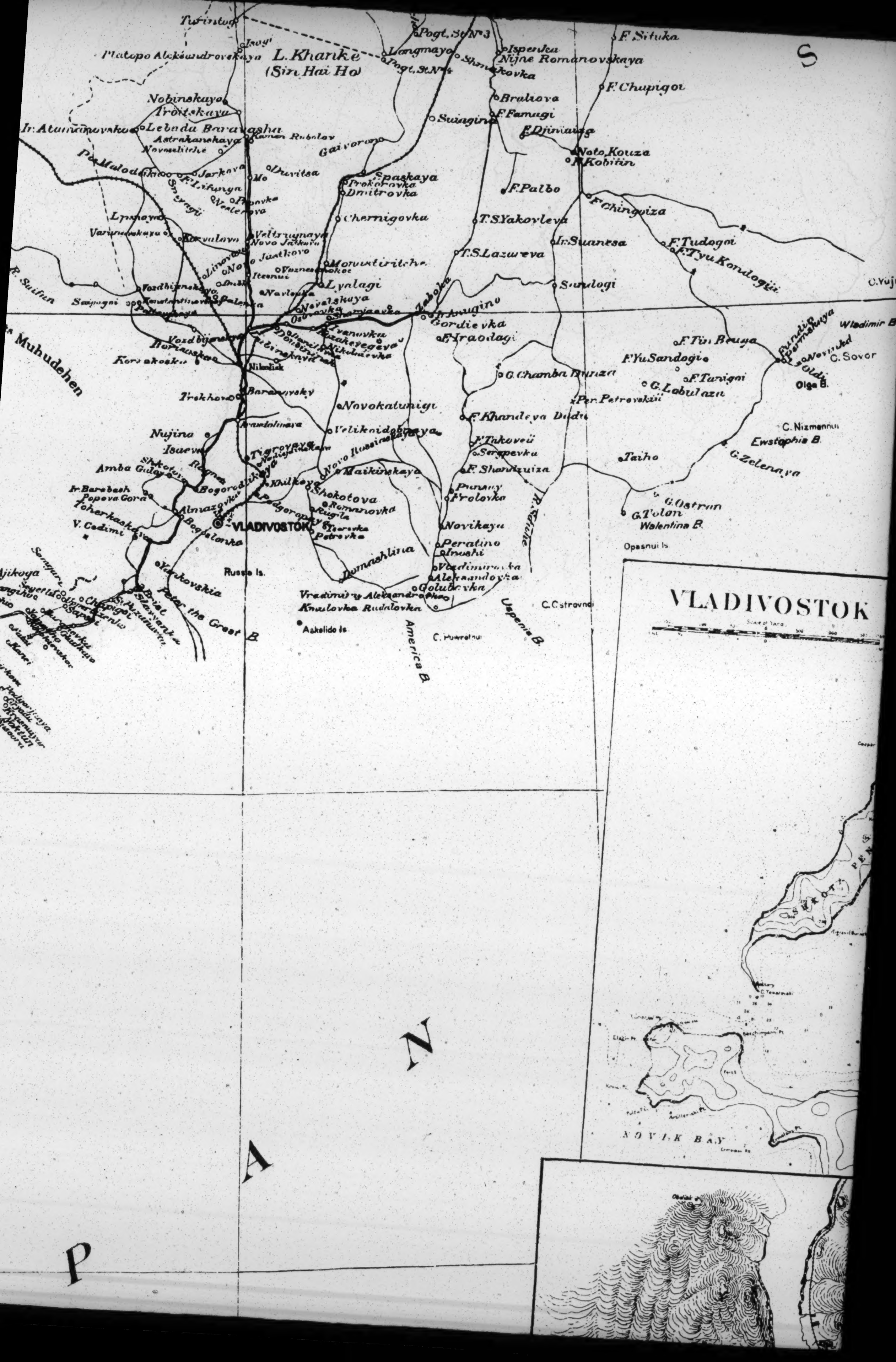
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Gaivoron
Spaskaya
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Dmitrovka
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Novo
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Aleksandovka
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Brial
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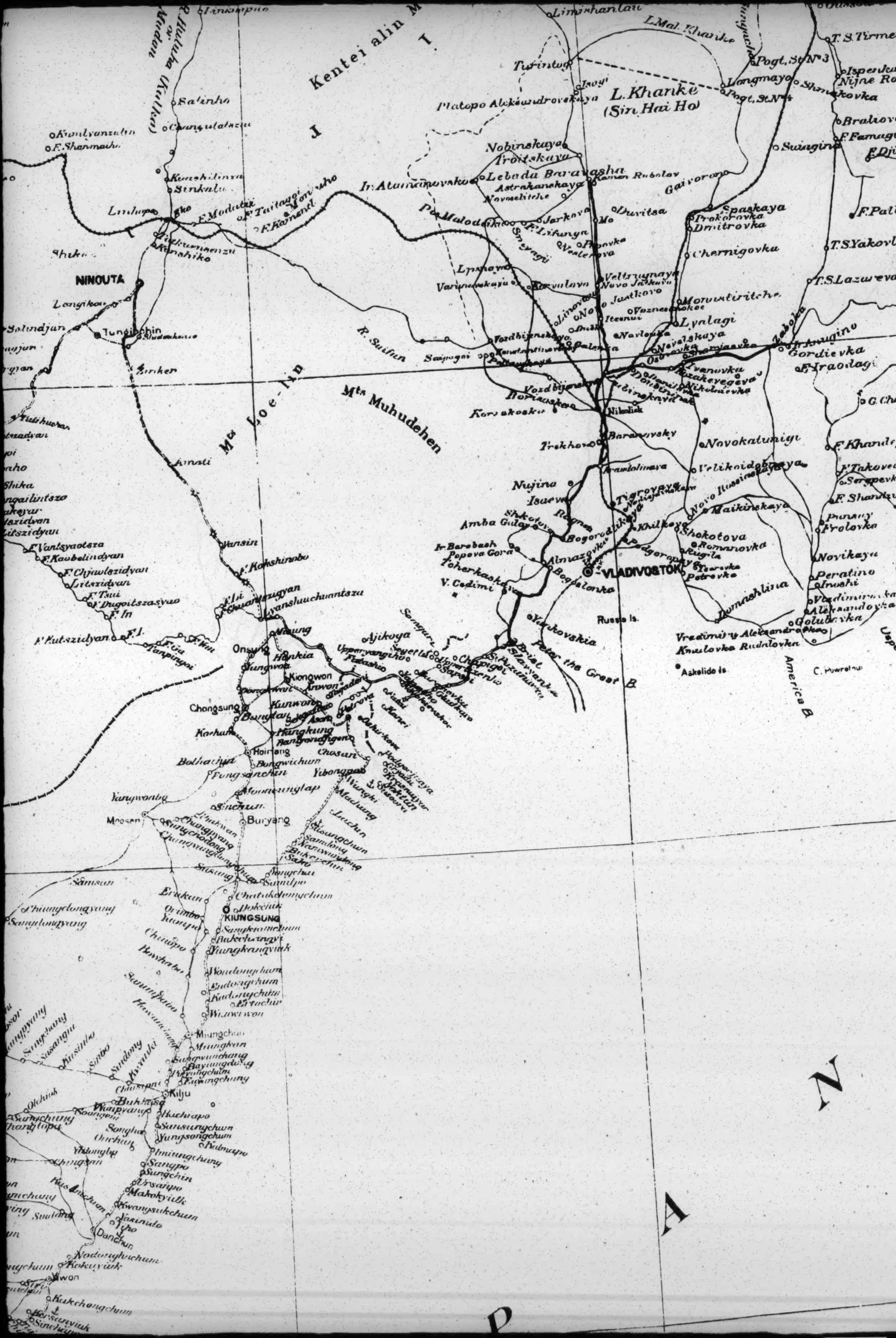
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Veltrugnaya
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Lyalagi
Nevelskaya
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Ir. Irugino
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F. Iraodagi
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F. Khande
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Amba Gulay
Khilkova
Shkotova
Romanovka
Bogorodzikaya
Almazovka
Podgoronaya
Ir. Barabash
Popova Gora
Tcherkaska
V. Cedimi
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VLADIVOSTOK
Russo Is.
Petrovka
Domashlina
Vradimiro Aleksandrovka
Knulovka Rudalovka
Askolido Is.
C. Powrotnoi
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Peter the Great B.
Slavyanka
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R. Suifun
Saipogai
Linlupo
Mts Loe-Lin
Mts Muhudehen
Kunshilinza
Sinkalu
Salinho
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Kunlyanzuhn
F. Shanmaiho
F. Modutai
F. Taitagai
F. Kamenel
Shika
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Longikou
Solindjan
Tungichin
Zinker
Amsti
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Litszidyan
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Moosen
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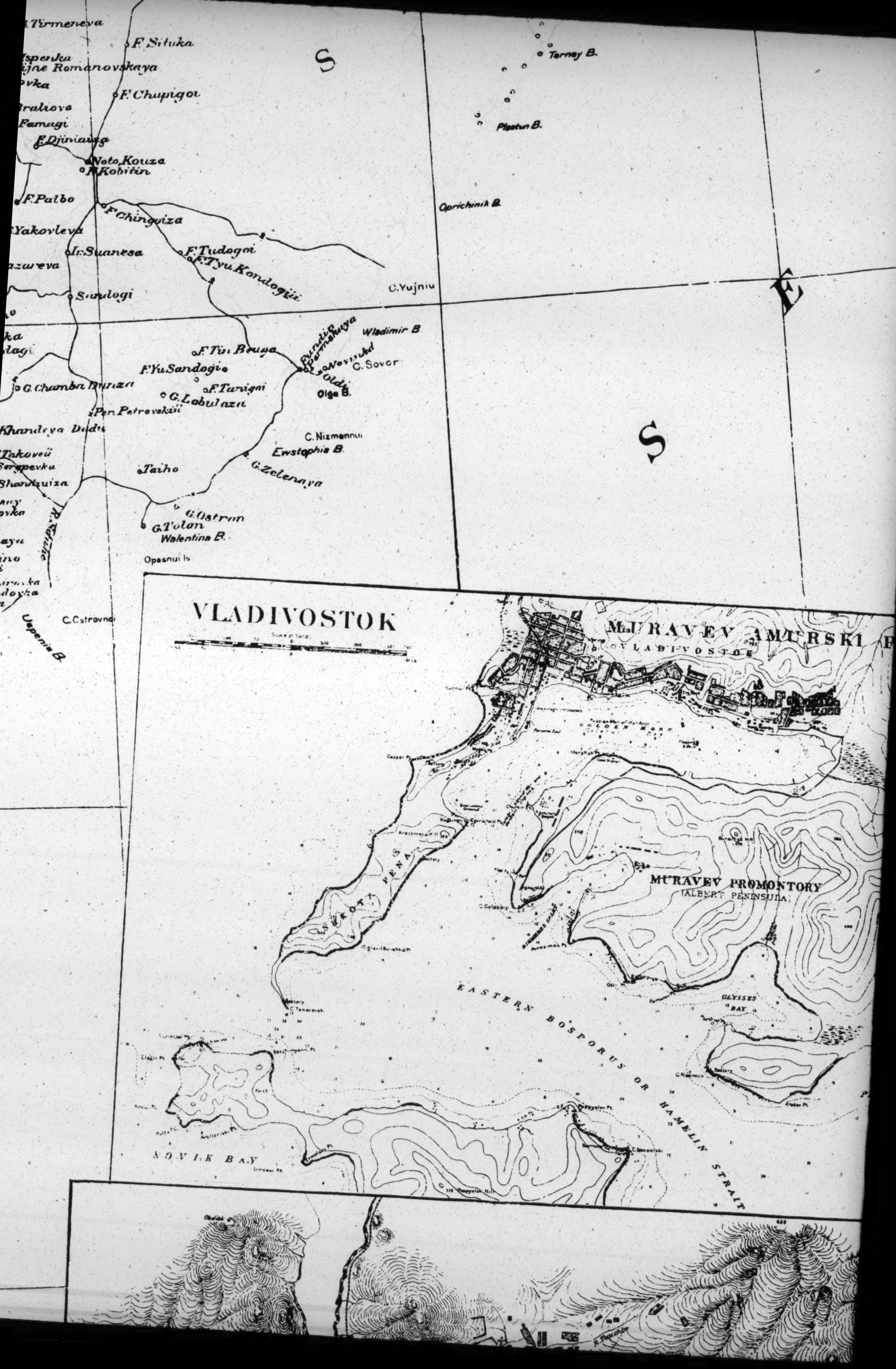
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F. Tudogoi
F. Tyu Kondogiii
Sandogi
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Terney B.
Plastun B.
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F. Yu Sandogi
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G. Labulaza
Pen Petrovskii
Khandeya Dudu
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Ewstaphia B.
G. Zelenaya
Takoveii
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Shandzuiza
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R. Sdzihe
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G. Tolan
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Cooper Pt.
Krestovaya Hill
SHKOTA PENA
C. Goldobin
MURAVEV PROMONTORY
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ULYSSES BAY
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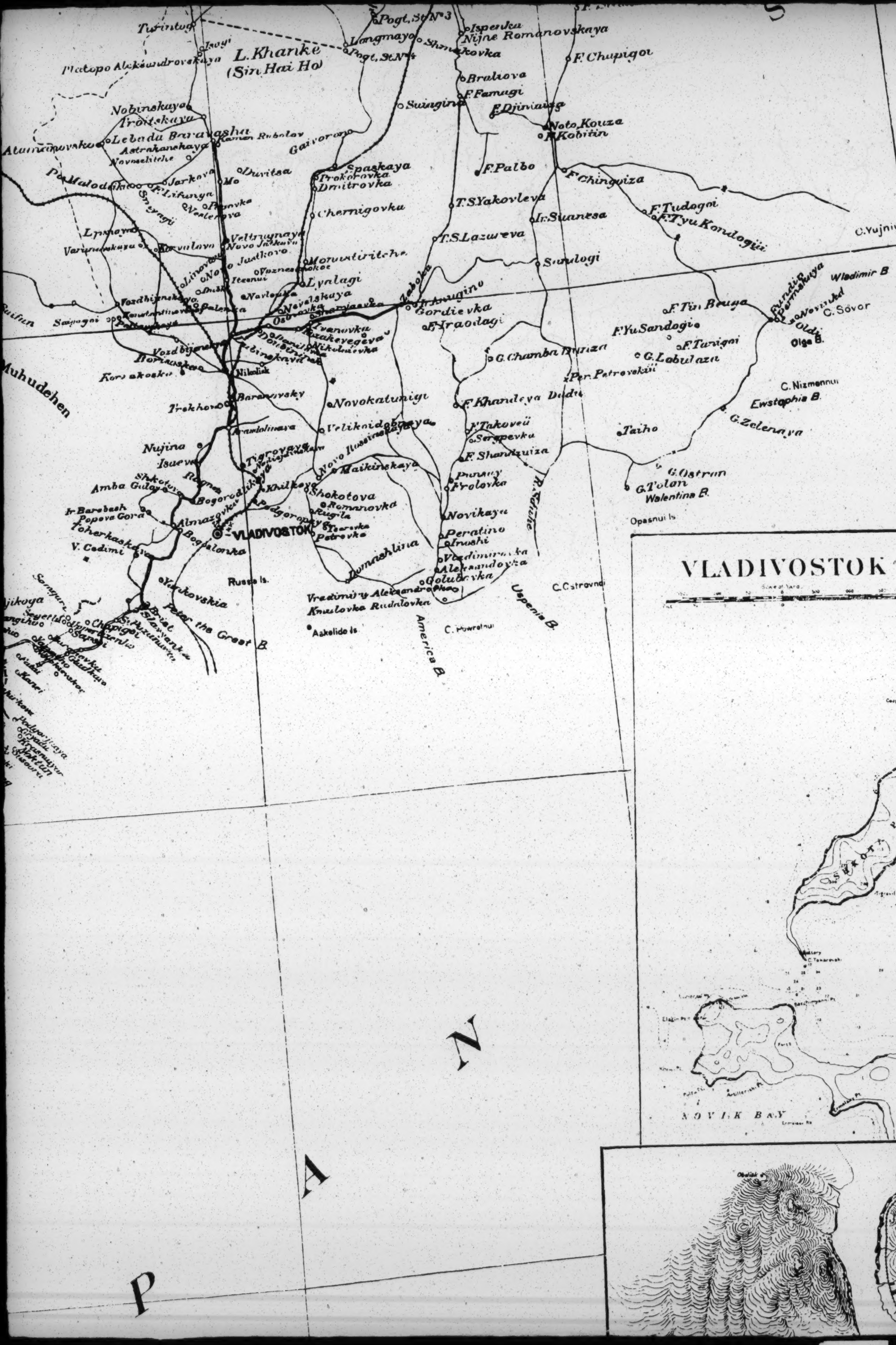
C. Tokarevski
C. Nazimov
NOVIK BAY
Popoylov Hill
Obdiak
R. Tsuchifu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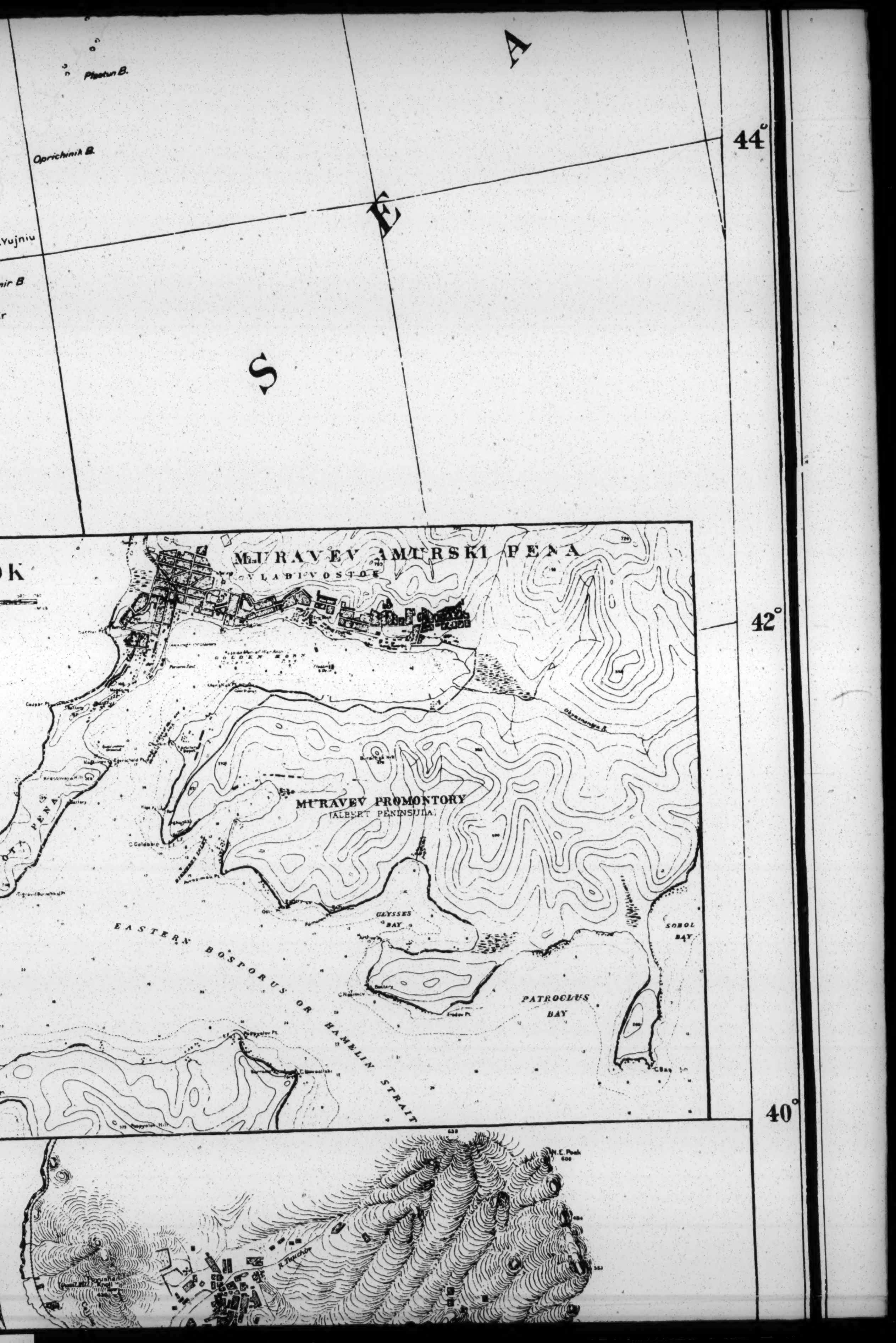
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Tigrovil Buranchak Pt.
Buracheek Hill
Obyasnenaya R.
MURAVEV PROMONTORY
(ALBERT PENINSULA)
Battery
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EASTERN BOSPORUS OR HAMELIN STRAIT
C. Nazimov
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Fedor Pt.
PATROCLUS
BAY
SOBOL
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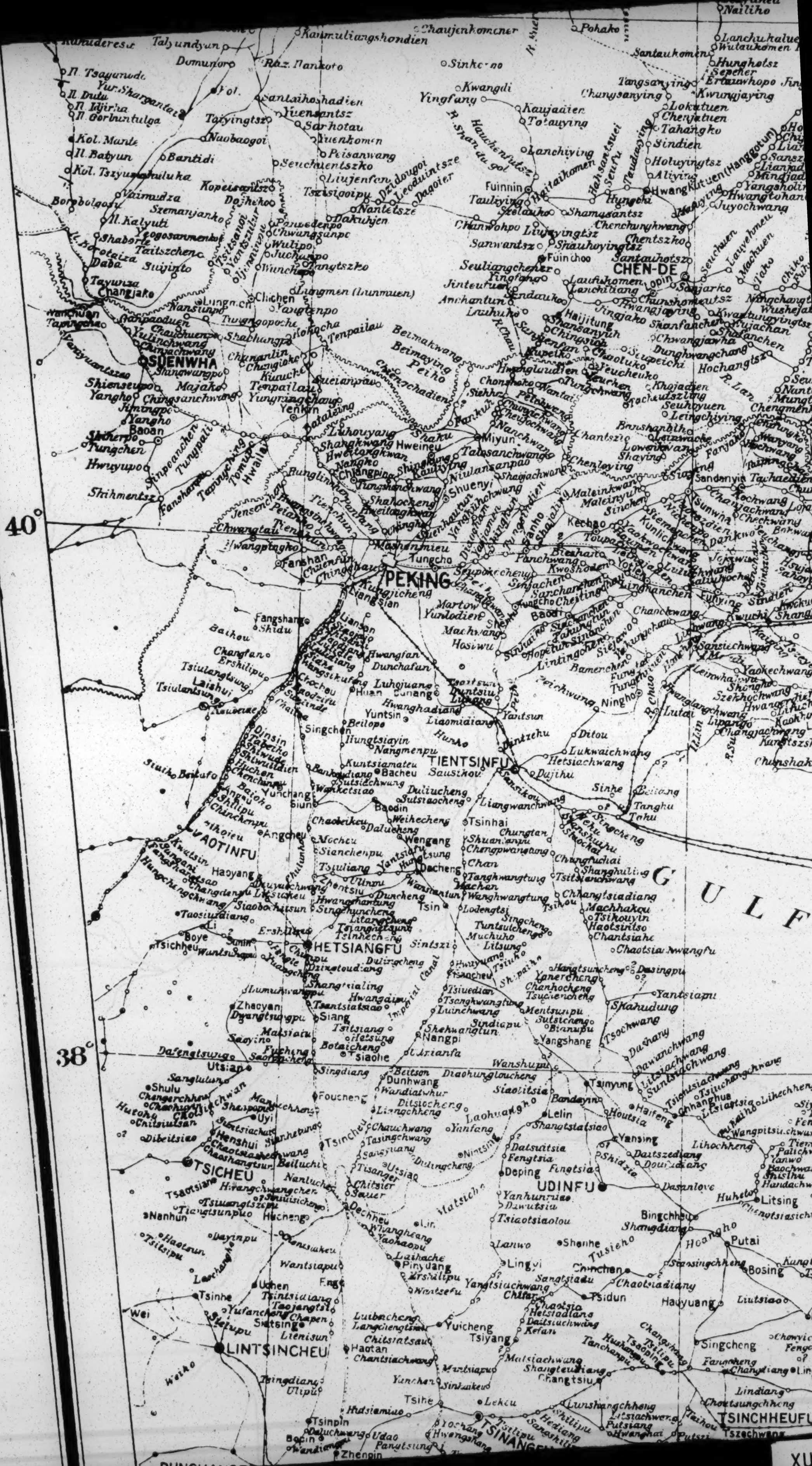
R. Pouchin

40°
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Haoyang
Angcheu
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LINTSINCHEU
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TSINANGFU
TSINCHHEUFU
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Fuinchoo
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Tangsanying
Chungsanying
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Hwangkutuen (Hanggotun)
Juyochwang
Laufuhomen
Lopin
Haijitung
Shanfanchen
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Hochangtsz
R. Lan
Kaujadien
Totauying
R. Shan du gol
Lungmen (Lunmuen)
Tenpailau
Beimakwang
Beimaying
Peiho
Chingchadien
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Siehho
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Chenloying
Malcinkwang
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Touputsz
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Hwanghadiang
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Luhojuang
Sunang
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Hwangtan
Dunchatun
Tsaotsun
Tuntsiu
Lidjang
Chochou
Chaodzitu
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Baioho
Shilipu
Chinchenpu
Sinik
Beifufo
Kwatsin
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Changdienpu
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Ershilipu
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Chingho
Chienfu
Fanshan
Hwangpingko
Chwangtau
Tienchun
Petaho
Jensenchen
Bunglinkow
Changpinglu
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Ijiminzirp
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Chwangsanpo
Kopeisantsz
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Nantetsze
Dakuhjen
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Dagoier
Peisanwang
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Tayingtsz
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Domunor
Taljundyun
Raz. Dankoto
Kaumuliangshondien
Chaujenhomener
Kubaideresu
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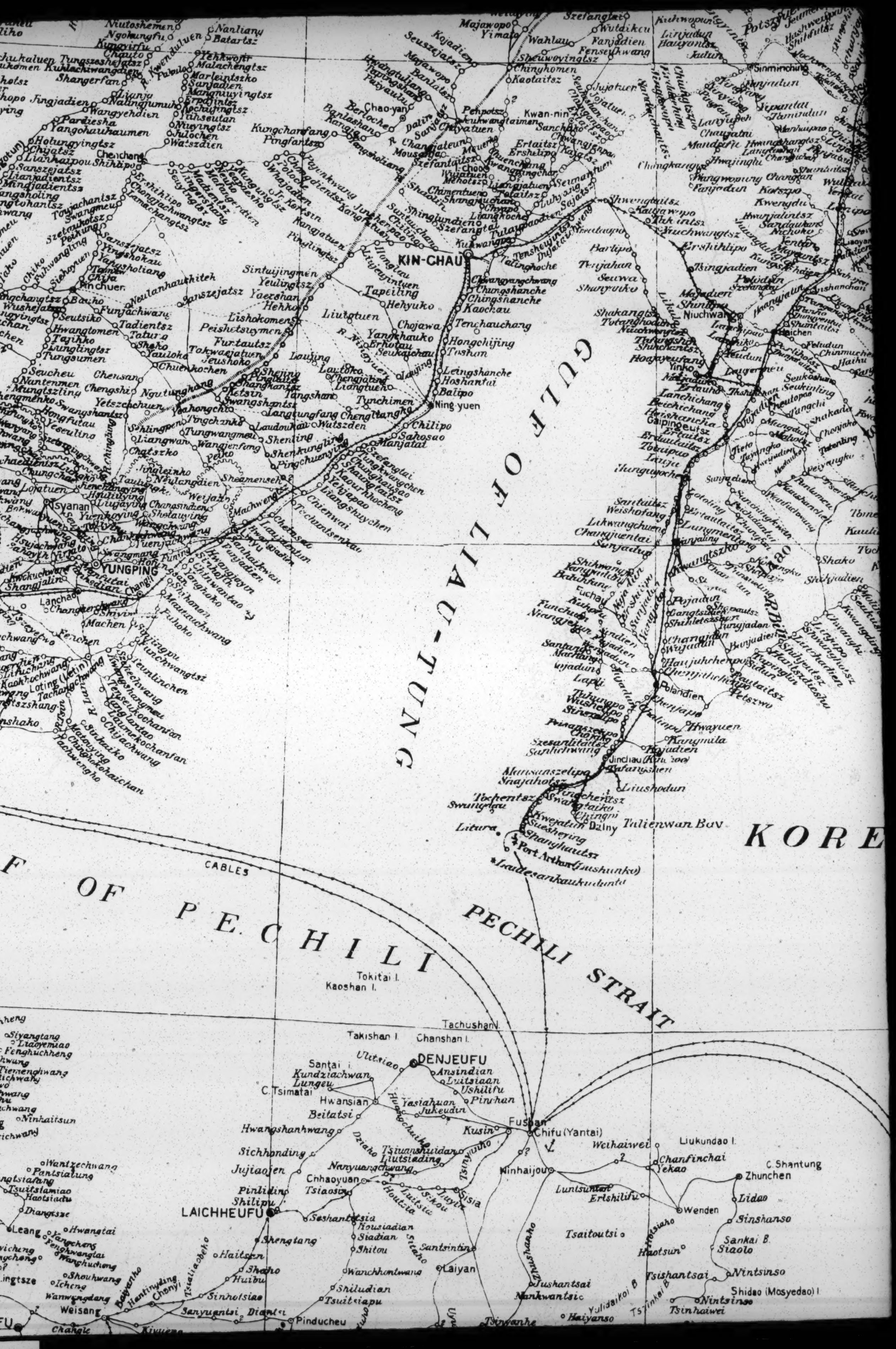
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Gaiping
Polandien
Jinchau (Kinchao)
Dalny
Talienwan Bay
Port Arthur (Lushunko)
Chao-yan
Kwan-nin
Sinminchin
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Chifu (Yantai)
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Takishan I.
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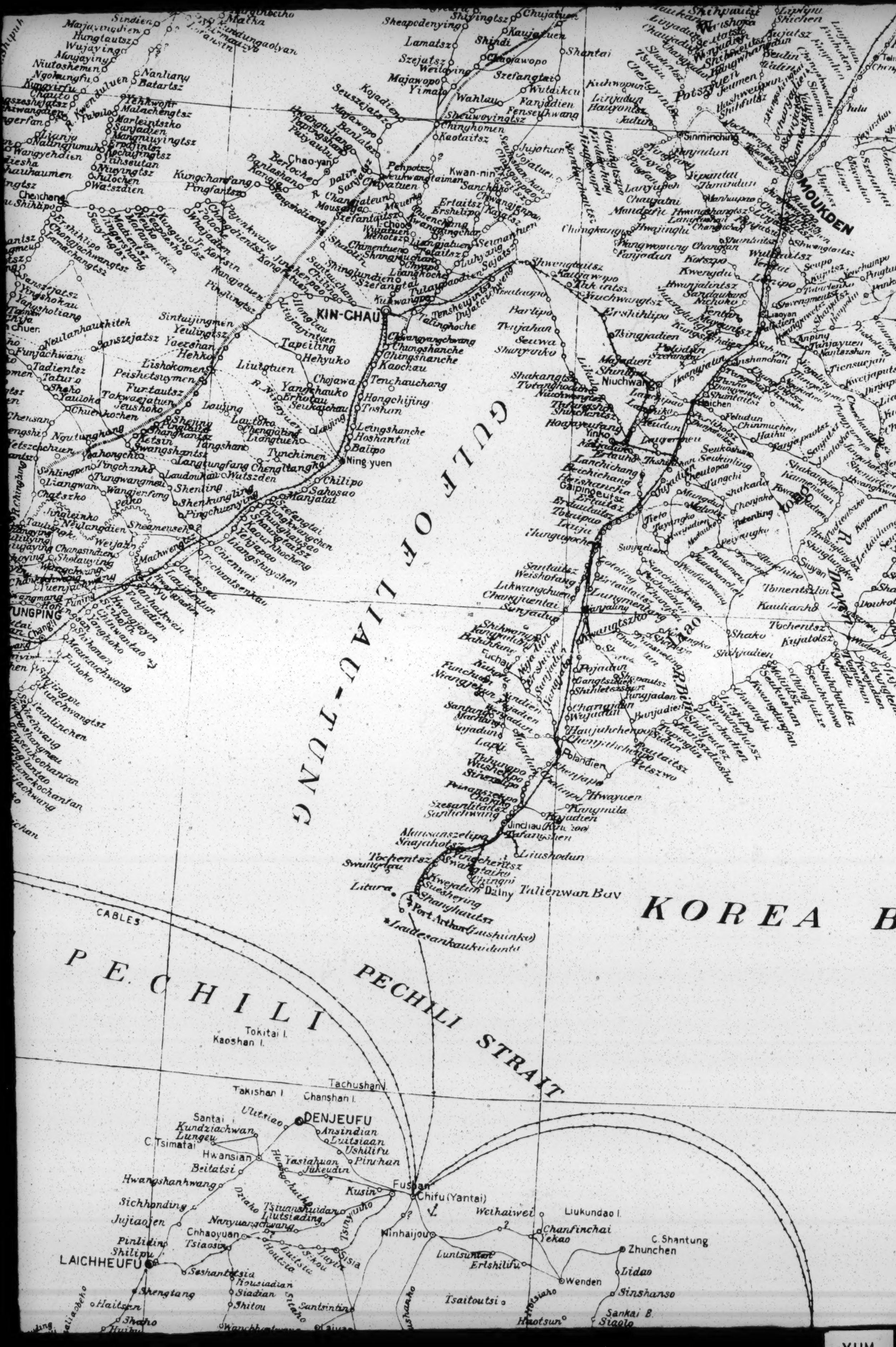
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C. Tsimatai
Hwansian
Beitatsi
Hwangshanhwang
Sichhonding
Jujiaojen
Pinlidin
Shilipu
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Haitsen
Shaho
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Yekao
C. Shantung
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Haotsun
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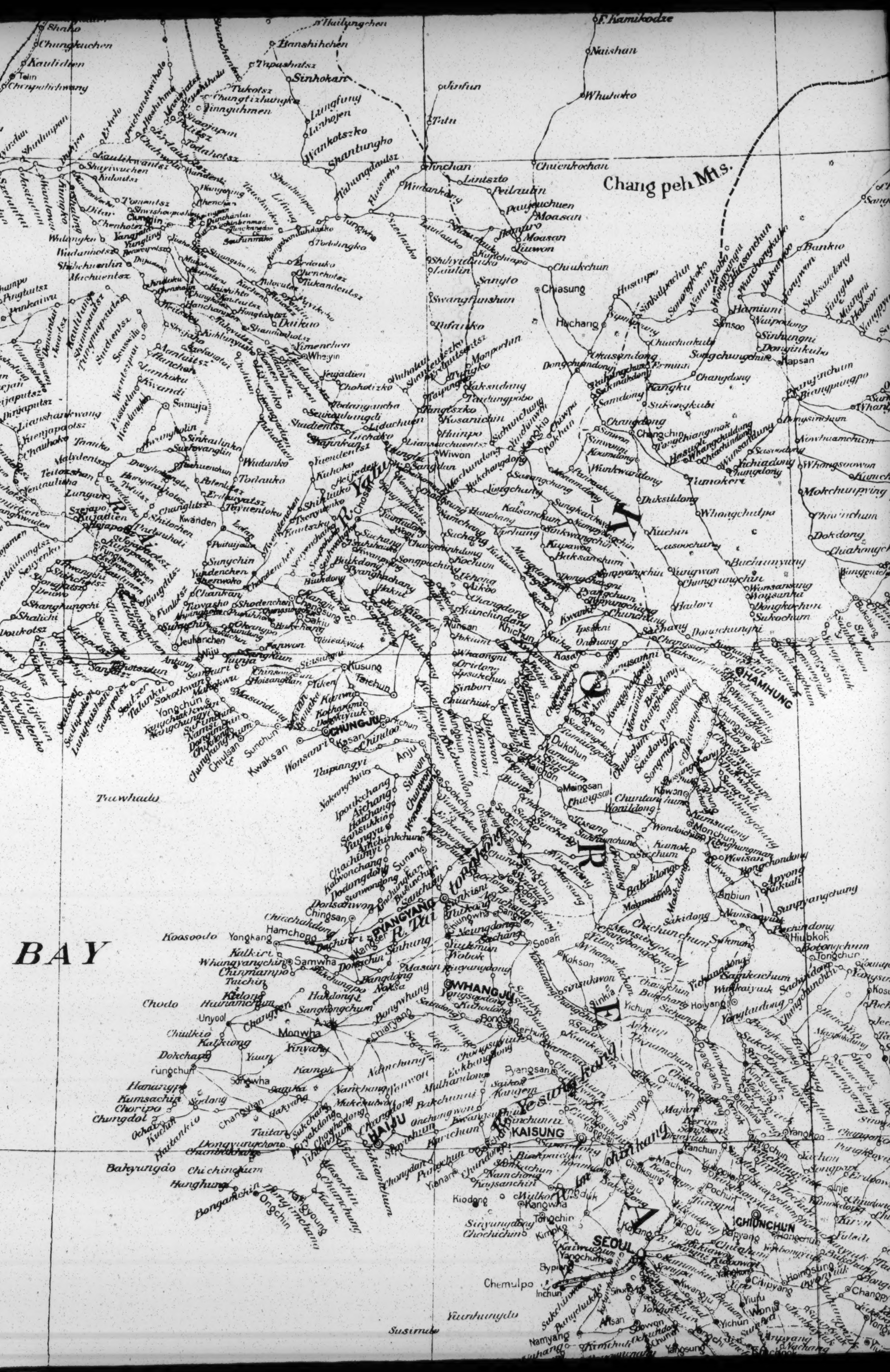
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CHUNCHUN
Chemulpo
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Whaiyin
Samaju
Kwanden
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Unsan
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Monchun
Yunghung
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Hiubkok
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Kosung
Yanggu
Inje
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Pyangsan
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Bypiung
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Suwon
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Chipyang
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Pongsan
Whangju
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Monwha
Unyool
Changyun
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Anak
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Ongchin
Kangyoung
Bongsan
Yunan
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Kiodong
Chodo
Dokchang
Kumsachin
Choripo
Chungdol
Bakyungdo
Hanghung
Susimdo
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Naishan
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Chinkan
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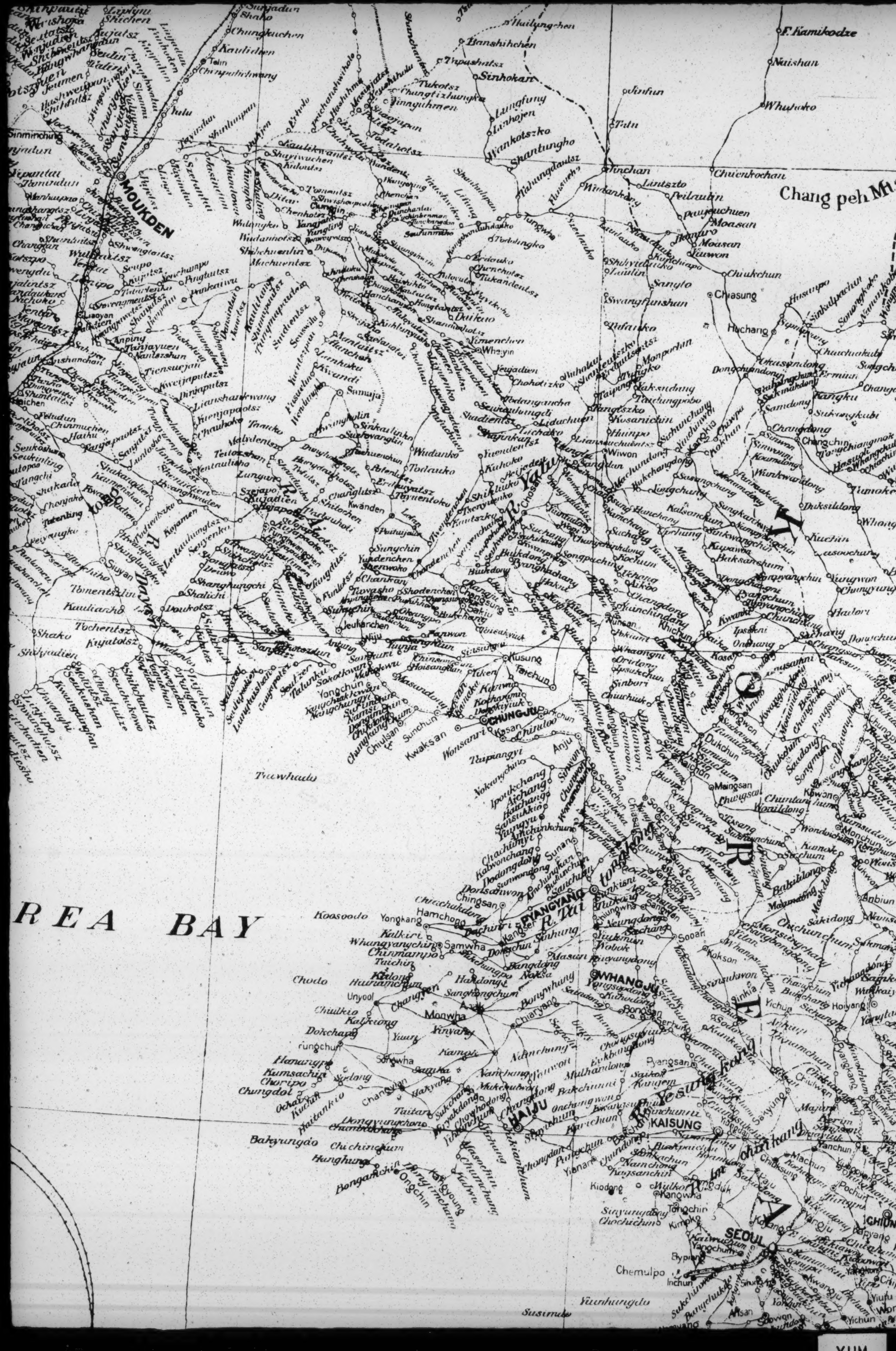
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R. Yalu
R. Tai
R. Yesung kang
R. Han chin kang
R. Daya
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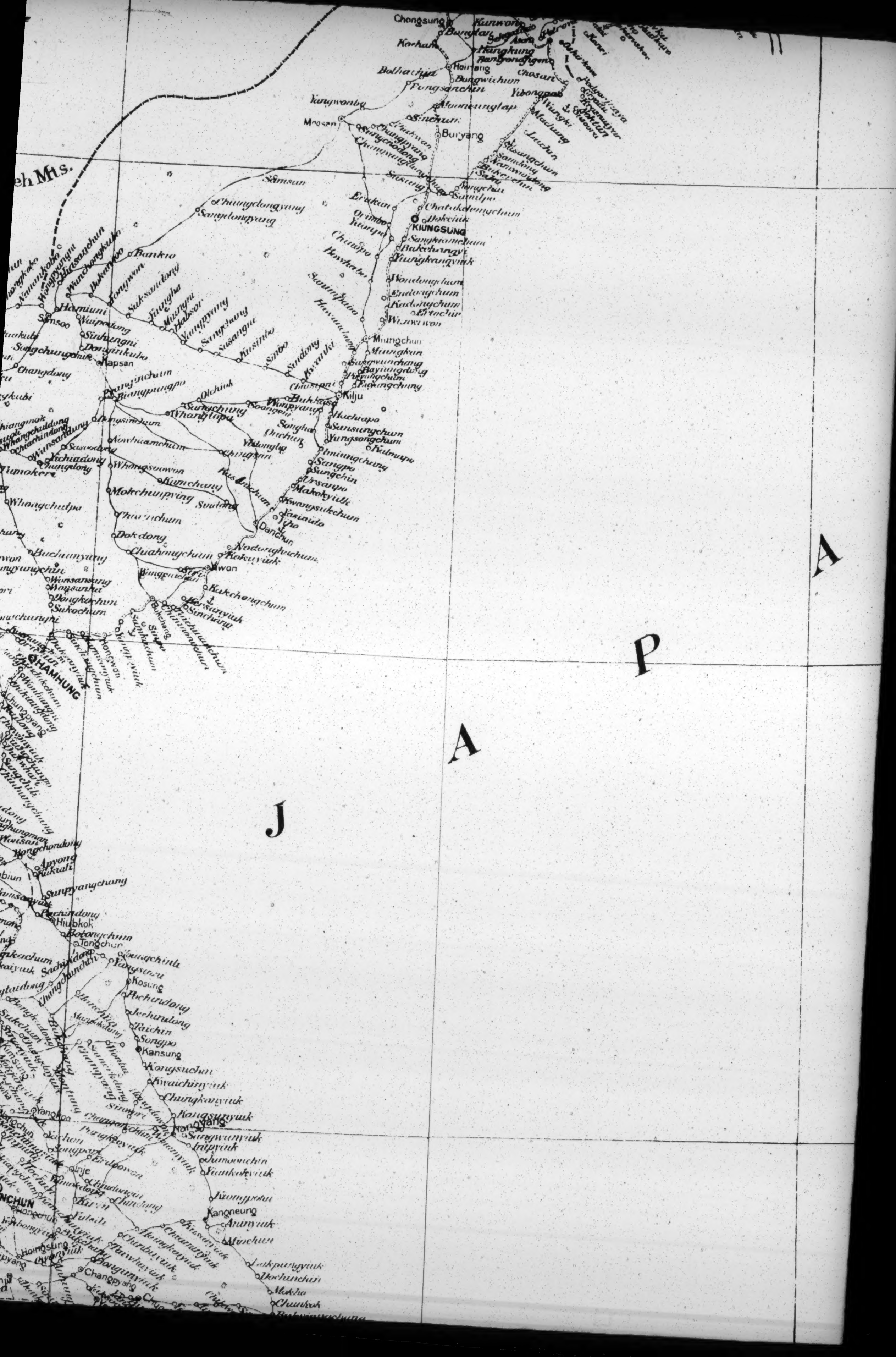
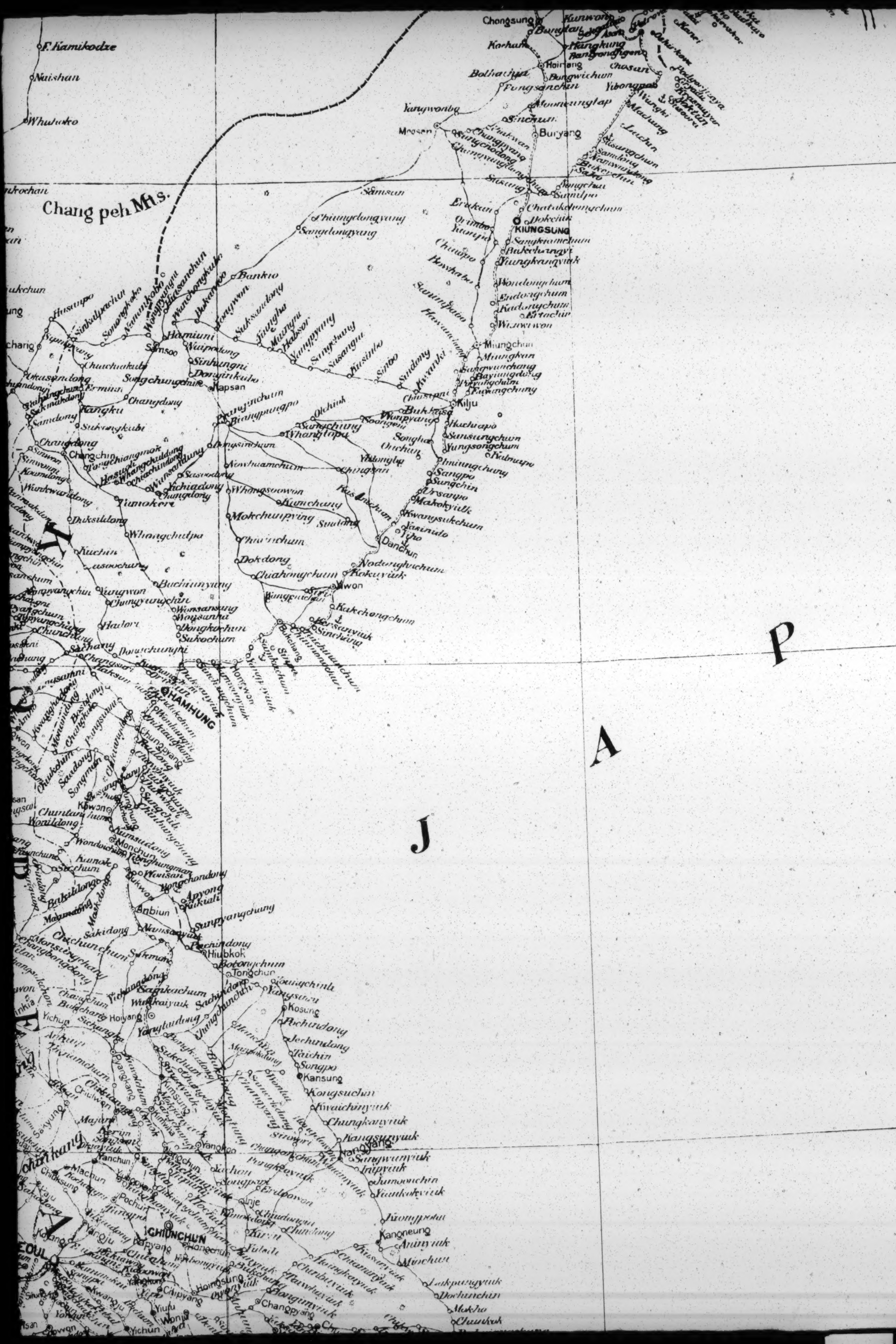
Anju
Tuswhado
Koosoodo
PYANGYANG
Chinnampo
Chodo
WHANGJU
HAIJU
KAISUNG
Bakyungdo
Hanghung
Ongchin
Kiodong
Kangwha
SEOUL
Chemulpo
Inchun
Yuunhungdo
Susimdo
Kwaksan
Sunchun
Taipiangyi
Sinkishi
Sunan
Samwha
Yongkang
Hamchong
Chungwha
Sangwon
Sooan
Monwha
Anak
Unyool
Chiulkio
Dokchang
Pyangsan
Tongchin
Kimpo
Yangchun
Yanchun
Pochun
Yangju
Anbiun
Chungchin
Huichun
Samdong
Changdong
Kangku
Wiwon
Chosan
Sakiu
Pyokdong
Kusung
Taichun
Sinbori
Dukchun
Maingsan
Kowon
Kosa
Ipsukni
Wandeni
Sinhokan
Lianghung
Tashihchen
Kaulithen
Telin
Sinminching
Chungkuchen
Shako
Tieling
Hunhochen
Samuja
Whaiyin
Kwanden
Tshaotozun
XUN


Chongsung
Kunwon
Bongkan
Kochan
Hoirang
Bolhachun
Bongwichun
Fongsanchan
Chosan
Yibongpai
Yangwonbo
Moosan
Sinchun
Buryang
Samsan
Chiungdongyang
Sangdongyang
Susung
Eraikan
Chatakchongchun
Dokchin
KIUNGSUNG
Sangkiamchun
Bukchangyi
Yungkangyuk
Wondongchun
Endongchum
Kadongchum
Wuowon
Miungchun
Miungkan
Kilju
Bukhaso
Sangpo
Sungchin
Ursanpo
Makokyuk
Kwangsukchun
Danchun
Nodongkuchun
Kokuyuk
Iwon
Kukchongchun
Sinchang
Hamiun
Samsoo
Sinhungni
Dongjinkubo
Hapsan
Changdong
Bukmo
Suksandong
Sangpyung
Sangjung
Susangni
Kusinbo
Sinbo
Sudong
Kwanki
Olchiok
Sungchung
Whanglapo
Noongeni
Songha
Ouchun
Yutongha
Chungsan
Kumchang
Sudong
Wunsandong
Yichiadong
Chungdong
Whongsoowon
Mokchunpying
Chunchun
Dokdong
Chiahongchun
Whangchulpo
Suchunyang
Wonsansung
Wonsunha
Dongkochun
Sukochun
Hongwon
Singo
Bukchang
HAMHUNG
J
A
P
A
Apyong
Kukiali
Sunpyangchung
Pochindong
Hiubkok
Botongchun
Tongchun
Yangsacu
Kosung
Pochindong
Jechundong
Taichin
Songpo
Kansung
Kongsuchun
Kwaichinyuk
Chungkangyuk
Kangsunyuk
Yangyang
Sangwunyuk
Inipyuk
Jumoonchin
Yantkakyuk
Inje
Yangkoo
Kangneung
Aninyuk
Moochun
Lakpungyuk
Dochunchin
Mokho
Chunkuk
Hoingsung
Changpyang
CHUNCHUN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Whulöko
Chang peh Mts.
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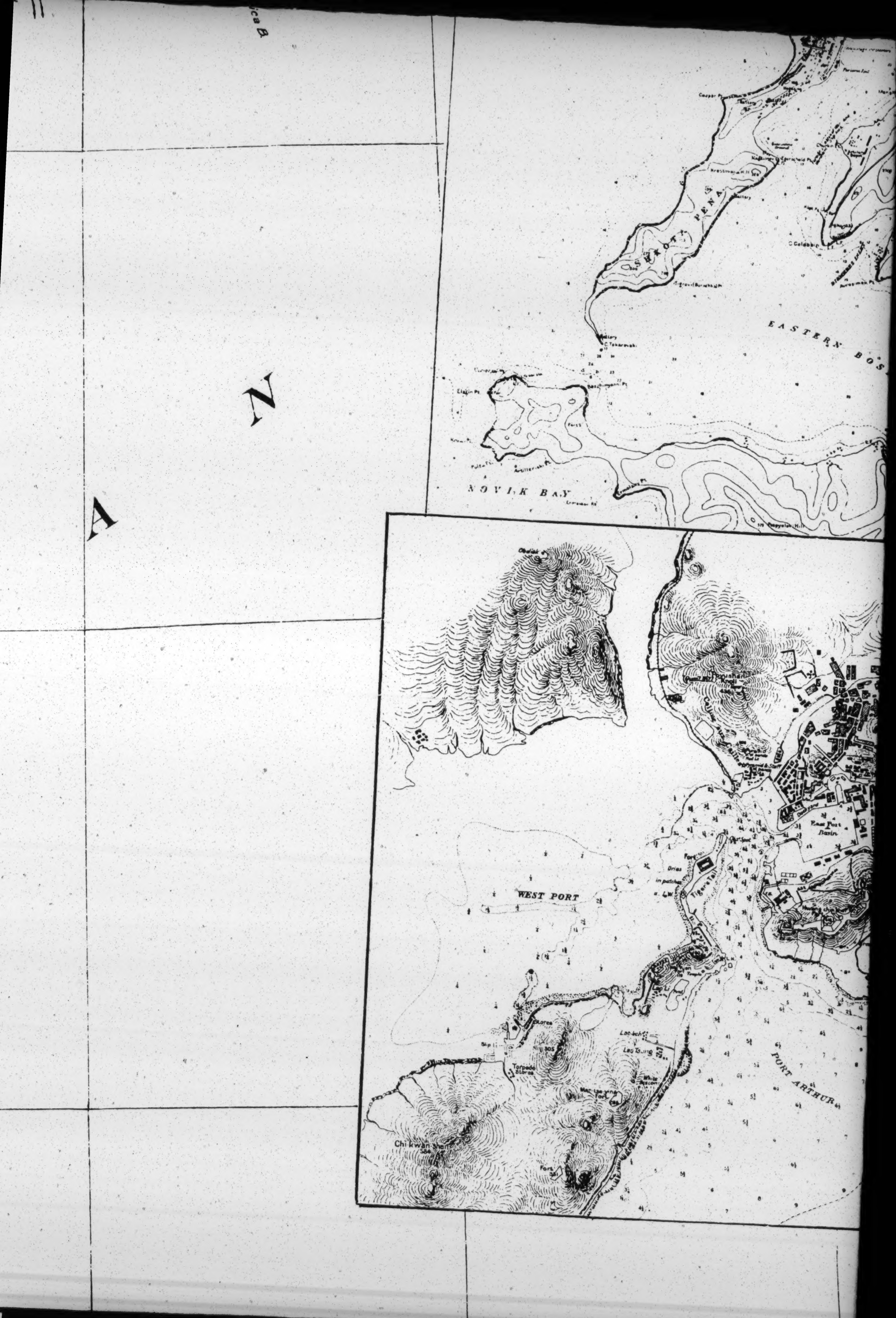
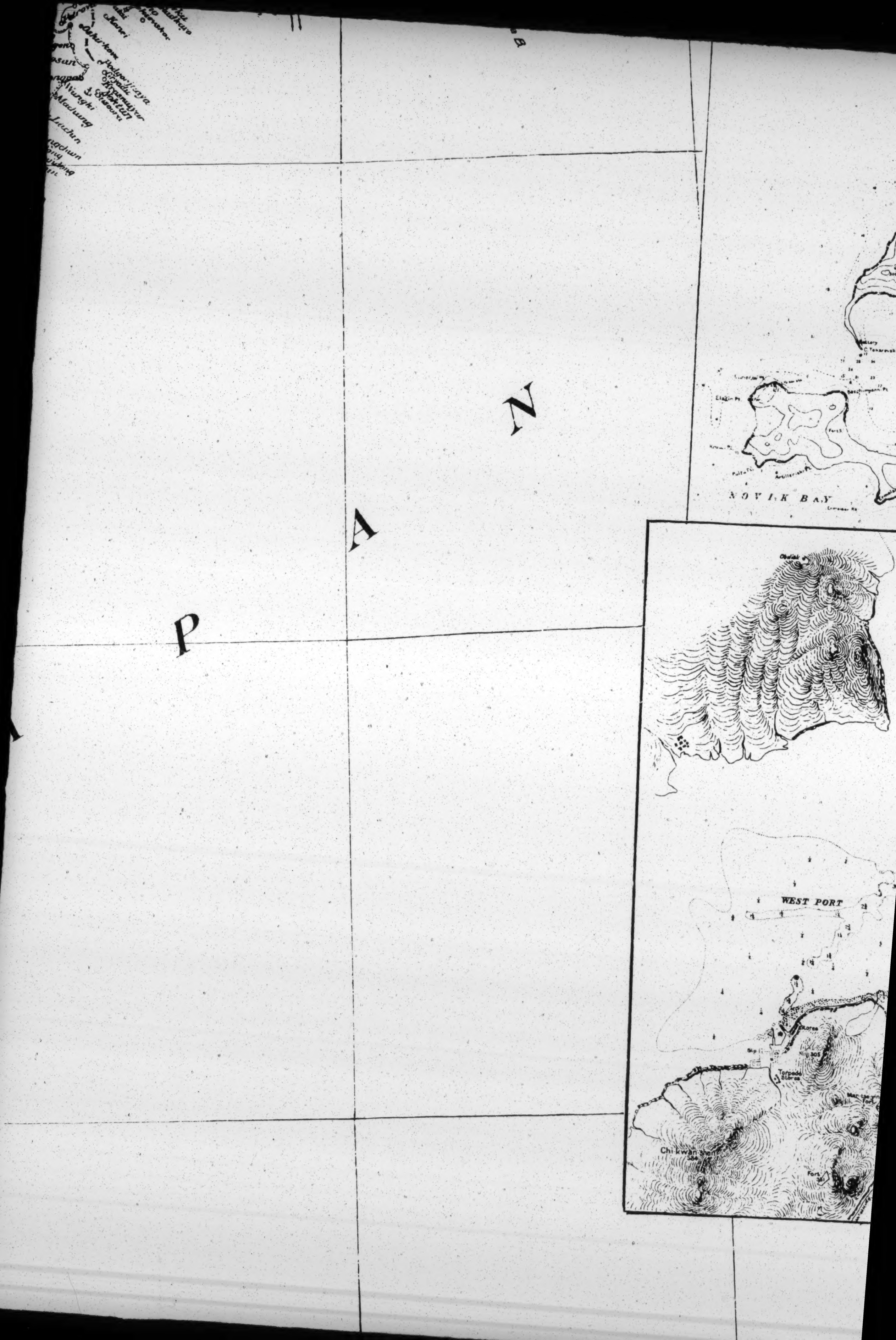
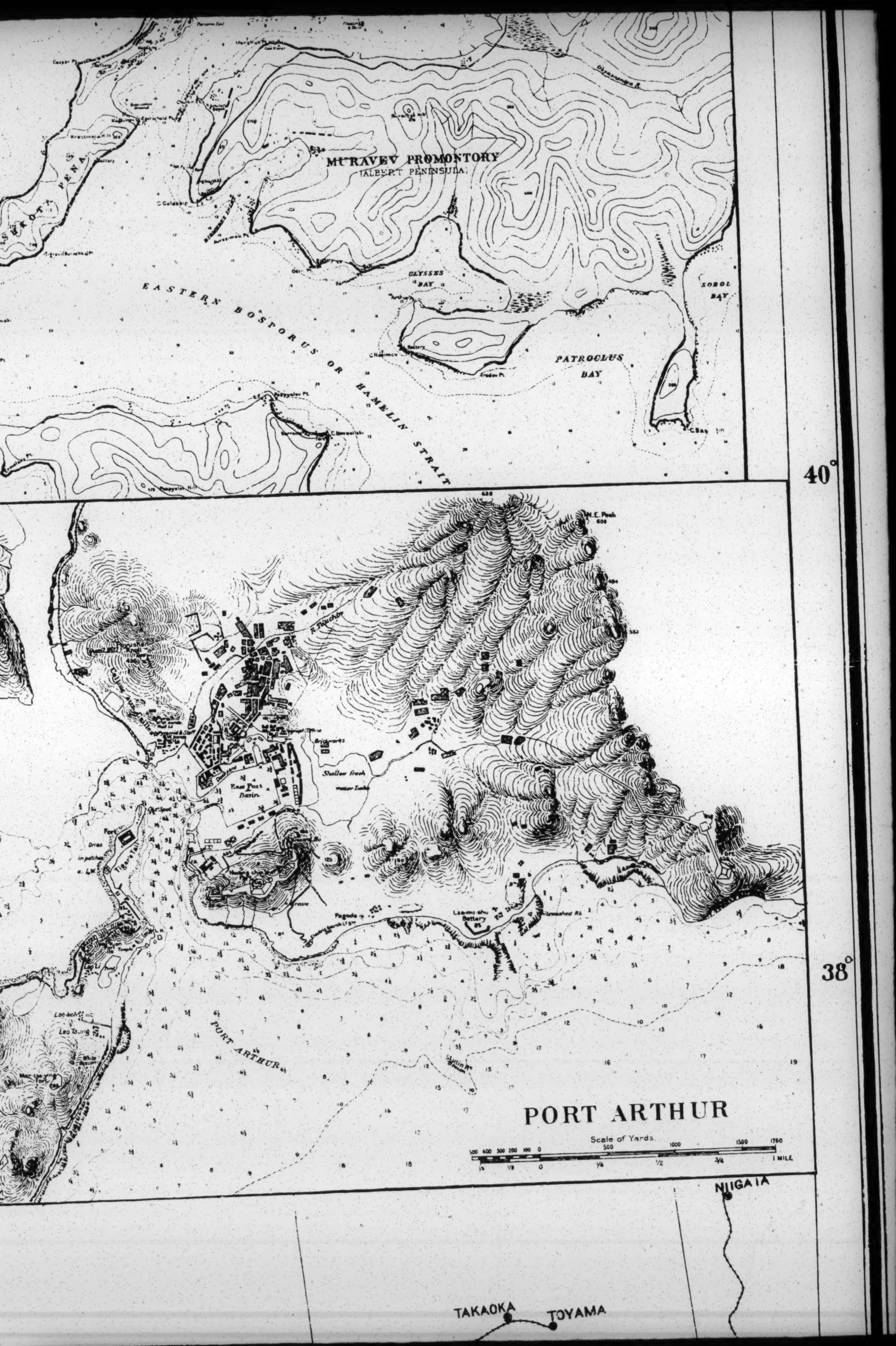
Kunwon
Bungtai
Korhun
Hoirung
Hangkung
Bolhachun
Bungwichun
Chosan
Yibongpab
Fungsanchun
Moonunglap
Yangwonbo
Sinchun
Musan
Buryang
Lachun
Machung
Samsan
Sasung
Sunnlpo
Chiungdongyang
Sangdongyang
Erakan
Chatukdongchun
KIUNGSUNG
Dokchin
Sangkiamchun
Bukchangri
Yungkangyiuk
Chiupo
Wondongchun
Endongchun
Kadongchun
Wiswiwon
Bankio
Husanpo
Sinkalpachun
Hamiuni
Samsoo
Naipodong
Sinhungni
Donginkubo
Kapsan
Suksandong
Sangkung
Sasangni
Kusinto
Sindo
Sandong
Kwanki
Miungchun
Miungkan
Sangwunchang
Kilju
Chusipni
Bukhosa
Huchiapo
Sansungchun
Yungsongchun
Kabnapo
Ihmiungchung
Sangpo
Sungchin
Ursanpo
Makokyiuk
Kwangsukchun
Yasindo
Yiho
Danchun
Nodongkichun
Kokuyiuk
Iwon
Kakchongchun
Sinchang
Olchiuk
Sangching
Whangtopa
Noongeu
Songha
Ouchun
Yalongbu
Chungsan
Kusanchun
Sudang
Chiahongchun
Kangpachun
Kumchang
Whangsoowon
Mokchunpving
Chinnchun
Dokdong
Dongsinchun
Nowhaamchun
Yichiadong
Chungdong
Yunokere
Whangchulpa
Duksildong
Kuchin
Ungwon
Chungyungchun
Buchiunyang
Wonsansang
Woysanku
Dongkachun
Sukochun
Hadori
Sachang
Changsari
Haksan
HAMHUNG
Chungpyang
Kowan
Wonsan
Wondochun
Monchun
Ahbiun
Sunpyangchung
Sakidong
Namsanyiuk
Pechindong
Hiubkok
Botongchun
Tongchun
Kouagchinli
Yangsaru
Kosung
Pochindong
Jechindong
Taichin
Songpo
Kansung
Kongsuchun
Kwaichinyiuk
Chungkanyiuk
Kangsunyiuk
Hangyang
Sangwunyiuk
Inpyiuk
Jumoonchin
Yiaukokyiuk
Kiongpotai
Kangneung
Aninyiuk
Minchun
Lakpungyiuk
Dochunchin
Mokho
Chunkok
Yangkok
Yichun
Hoiyang
Yanghudong
Kimsung
Pyangkang
Chulwon
Majan
Yanchun
Machun
Pochun
Inje
Chundong
Chunbuyiuk
CHUNCHUN
Hongchun
Kapyang
Yangju
SEOUL
Kwangju
Yangkun
Chipyang
Hoingsung
Changpyang
Wonju
Yiuju
Yichun
J
A
P

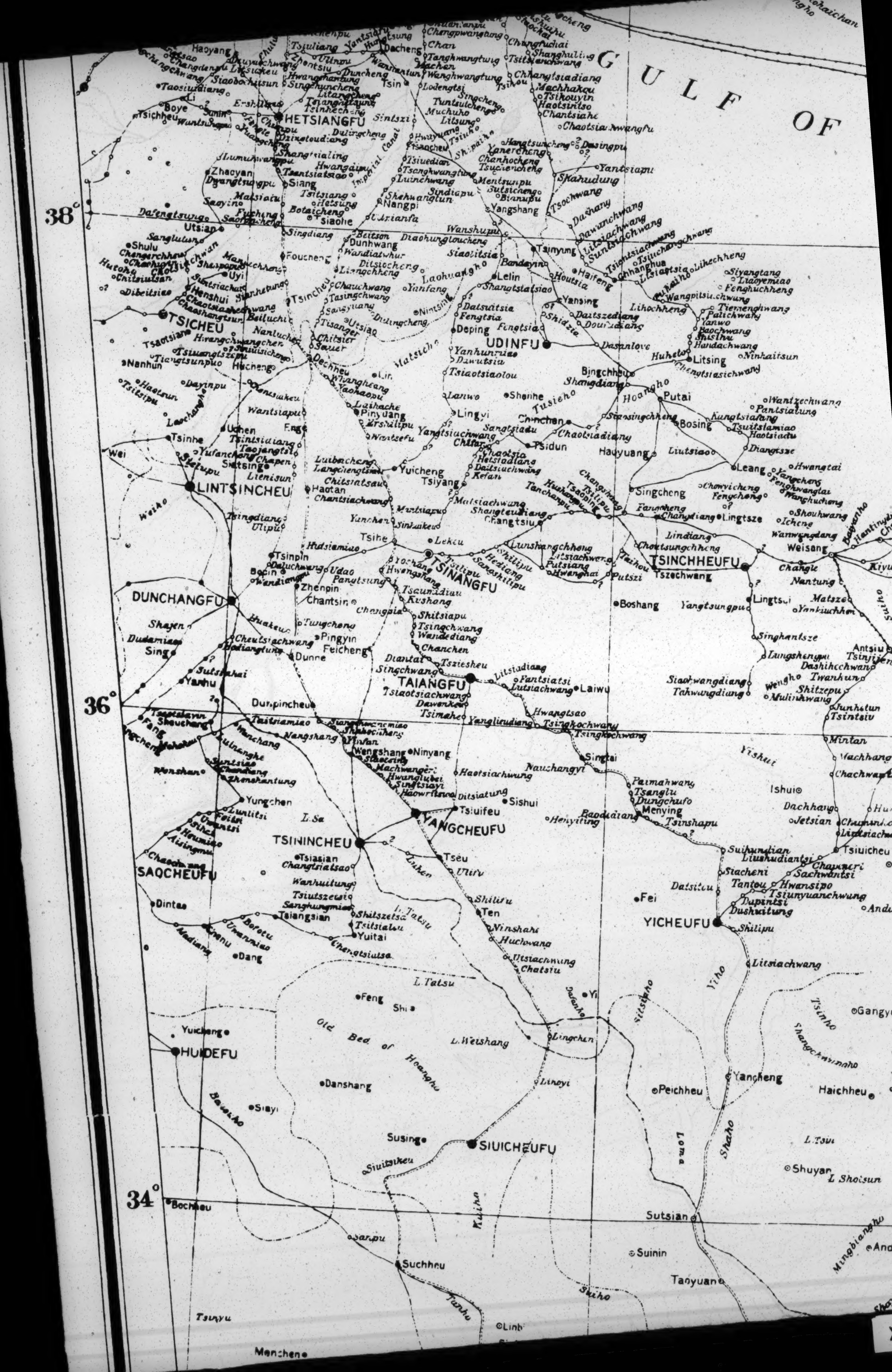
XUM

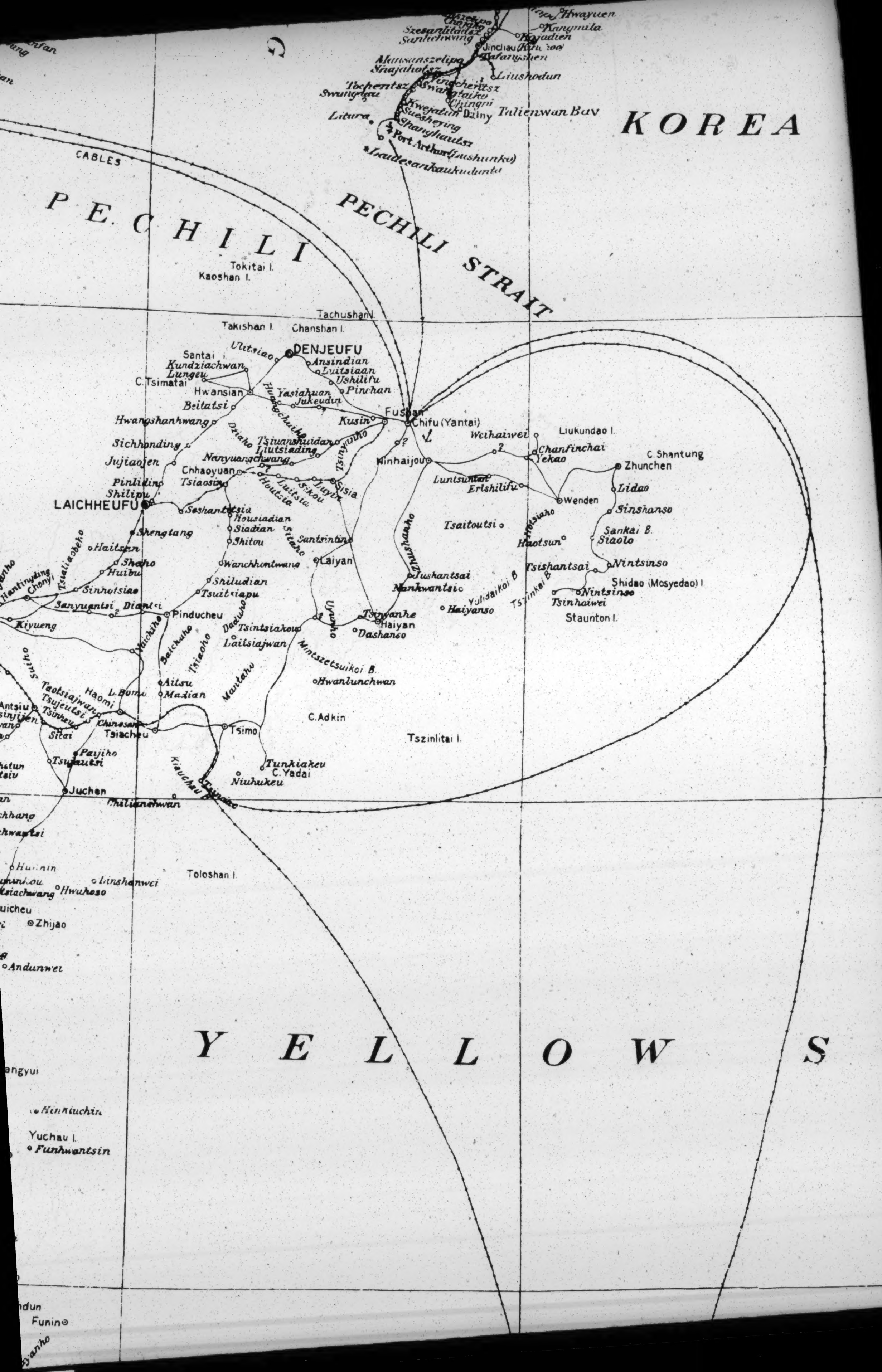

N
A
Cooper Pt.
Battery
Krestovaya Hill
SHKOTT PENA
Battery
C. Goldobin
Tigrovi Buruchahi
EASTERN BOS
Battery
C. Tokarevski
Elagin Pt.
Bezchimyanni Pt.
Fort
Krow Pt.
Artilleriski Pt.
NOVIK BAY
Ermolow Pt.
Pesyalon Hill
Obelisk
Poyushan Knoll
Fort
Dries in patches at L.W.
Tiger's Tail
East Port Basin
Dockyard
WEST PORT
Stores
Slip
Torpedo Stores
Lao Tsung
White Beacon
Man-tsa-ying Fort
Chi-kwan-shan
Fort
PORT ARTHUR

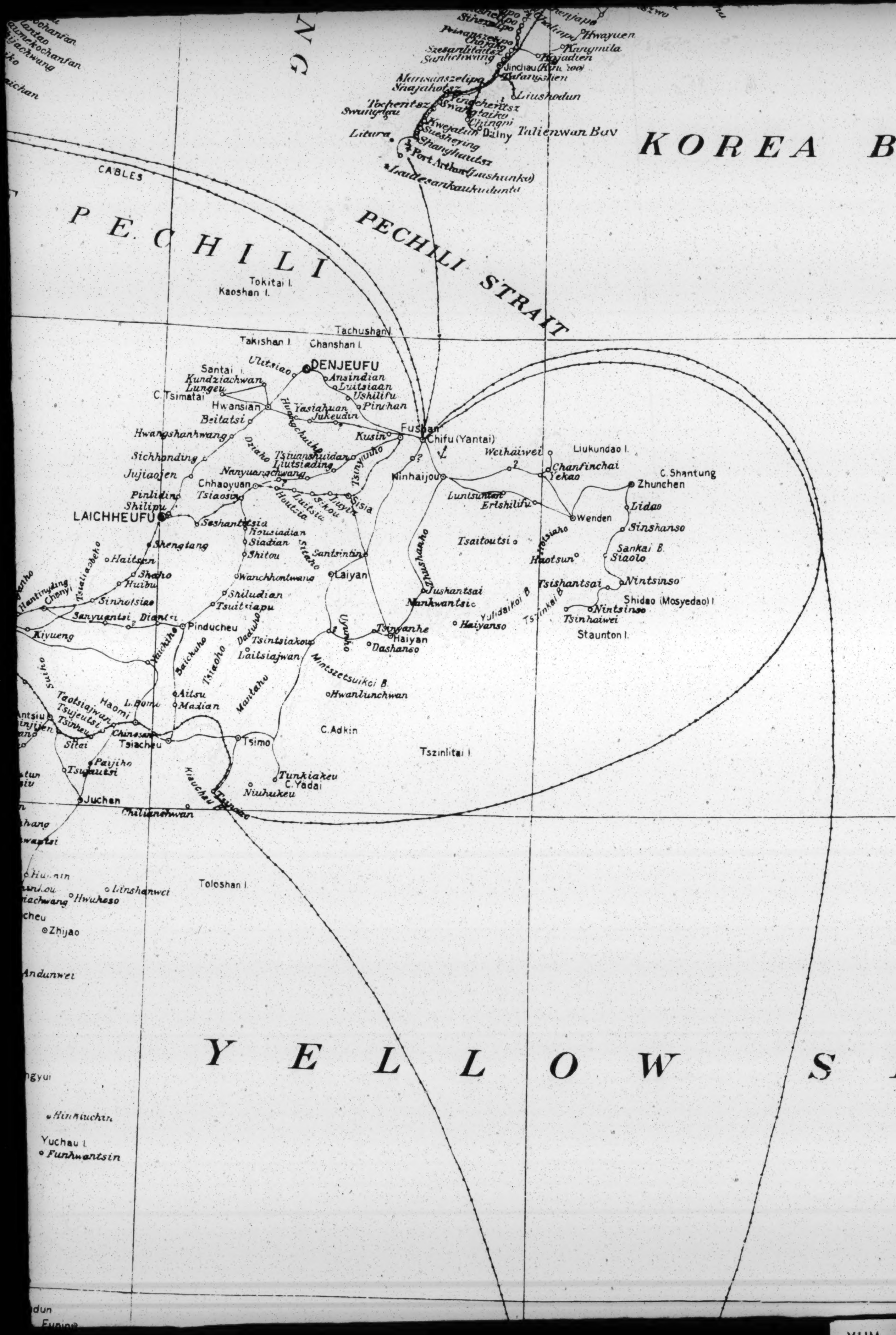

Kanei
Podgorodnaya
Wiungki
Machung
Lachun
A
P
A
N
Elakin Pt.
Artillerist Pt.
NOVIK BAY
WEST PORT
Stores
Torpedo Stores
Chi kwan shan
Fort


Cooper Pt.
Battery
Krestovaya Hill
PENA
SHKOTOV
C.Goldobin
Tigrovil Burnehall Pt.
Burenzhoi Inlet
Aresimoff Pt.
MURAVEV PROMONTORY
(ALBERT PENINSULA)
ULYSSES BAY
SOBOL BAY
Battery
C.Nazimov
PATROCLUS BAY
EASTERN BOSPORUS OR HAMELIN STRAIT
Poppyalov Pt.
Poppyalov Hill
C.Novosiltski
Okyanskaya R.
40°
N.E. Peak
R. Tsuichin
Poyushan Knoll
Pyramid
Brickworks
Shallow fresh water lake
East Port Basin
Dockyard
Fort
Dries in patches at L.W.
Tiger's Tail
Hwang chin shan
Grave
Pagoda
Lao-mu-shu Battery
Lao Li Pond
Lao-tich
Lao Tsung
Mao-tse-ying Fort
White Beacon
PORT ARTHUR
38°
Scale of Yards
500 400 300 200 100 0 500 1000 1500 1760
1/8 1/8 0 1/4 1/2 3/4 1 MILE
NIIGATA
TAKAOKA
TOYAMA

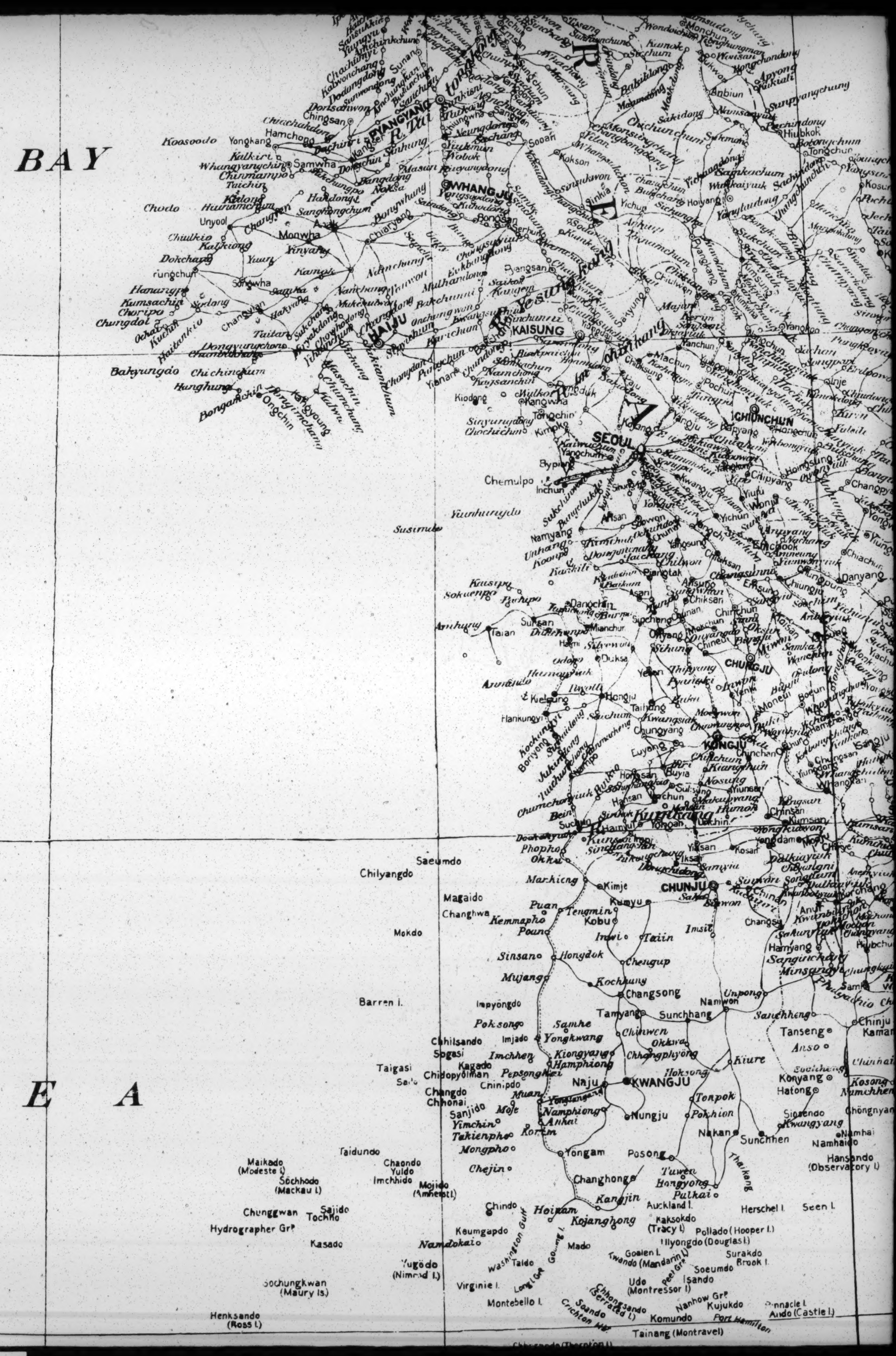
PORT ARTHUR


GULF OF
38°
36°
34°
HETSIANGFU
TSICHEU
UDINFU
LINTSINCHEU
DUNCHANGFU
TSINANGFU
TSINCHHEUFU
TAIANGFU
YANGCHEUFU
TSININCHEU
SAOCHEUFU
YICHEUFU
HUIDEFU
SIUICHEUFU
Imperial Canal
Hoangho
Old Bed of Hoangho
L. Tatsu
L. Weishang
L. Sa
Yishui
Yiho
Shaho
Loma
Suiho
Kuiho
Weiho
Dacheng
Tsin
Siang
Nangpi
Yangshang
Wanshupu
Tsinyung
Haifeng
Yansing
Deping
Lelin
Foucheng
Tsincheu
Litsing
Putai
Bingchheu
Shanghe
Lingyi
Tsidun
Yuicheng
Tsiyang
Lekeu
Tsihe
Tsinpin
Zhenpin
Chantsin
Pingyin
Feicheng
Dunne
Laiwu
Boshang
Lingtsze
Weisang
Singtai
Menying
Sishui
Tsuifeu
Tseu
Ten
Fei
Ishui
Yi
Lingchen
Linyi
Yancheng
Peichheu
Haichheu
Shuyan
Sutsian
Suinin
Taoyuan
Suchheu
Sanpu
Bochheu
Susing
Danshang
Siayi
Feng
Shi
Dang
Yuitai
Tsiangsian
Dintao
Yungchen
Sing
Yanhu
Dunpincheu
Tsinhe
Wei
Uchen
Nanhun
Uyi
Henshui
Zhaoyan
Boye
Haoyang
Utsian
Shulu
Singcheng
Haoyuang
Bosing
Leang
Lingtsui
Changle
Antsiu
Gangyu
Menchen


KOREA
PECHILI
PECHILI STRAIT
YELLOW SE
CABLES
Hwayuen
Kangmila
Kajadien
Szesanlitadsz
Sanlichwang
Jinchiau (Kinchoo)
Tafangshen
Liushodun
Alausanszelipu
Snajahotsz
Tochentsz
Swangtaiku
Chingni
Kwejatun Dalny
Sueshéyng
Shanghautsz
Litura
Port Arthur (Lushunko)
Laodesankaukudunta
Talienwan Bay
Tokitai I.
Kaoshan I.
Tachushan I.
Takishan I.
Chanshan I.
Santai I.
DENJEUFU
Ulitsiao
Ansindian
Luitsiaan
Ushilifu
Pinchan
Kundziachwan
Lungeu
C. Tsimatai
Hwansian
Yasiahuan
Jukeudun
Beitatsi
Hwangshanhwang
Kusin
Fushan
Chifu (Yantai)
Sichhonding
Tsiuanshuidan
Liutsiading
Nanyuanschwang
Jujiaojen
Chhaoyuan
Pinlidian
Tsiaosia
Shilipu
LAICHHEUFU
Luitsia
Sikou
Liuyin
Sisia
Ninhaijou
Weihaiwei
Liukundao I.
Chanfinchai
Yekao
C. Shantung
Zhunchen
Luntsuntan
Erlshilifu
Wenden
Lidao
Sinshanso
Sankai B.
Siaolo
Tsaitoutsi
Haotsun
Seshantsia
Housiadian
Siadian
Shitou
Shengtang
Haitsen
Shaho
Huibu
Chenyi
Hantinyding
Sinhotsiao
Sanyuantsi
Diantsi
Kiyueng
Wanchhontwang
Shiludian
Tsuitsiapu
Pinducheu
Santsintin
Laiyan
Tushantsai
Nankwantsi
Yulidaikoi B.
Tsinkai B.
Tsishantsai
Nintsinso
Shidao (Mosyedao) I.
Nintsinso
Tsinhaiwei
Haiyanso
Staunton I.
Tsinyanhe
Haiyan
Dashanso
Tsintsiakou
Laitsiajwan
Nintszetsuikoi B.
Hwanlunchwan
Aitsu
Madian
L. Bomo
Haomi
Taotsiajwan
Tsujeutsi
Tsinheu
Sitai
Chinosan
Tsiacheu
Tsimo
C. Adkin
Tszinlitai I.
Paijiho
Tsujautsi
Tunkiakeu
C. Yadai
Niuhukeu
Juchen
Chilianshwan
Kiauchau
Tsingtau
Huinin
Linshanwei
Hwuhoso
Toloshan I.
Zhijao
Andunwei
Hinkiuchin
Yuchau I.
Funhwantsin
Funin
Antsiu
Tsiaho
Dziaho
Sitaho
Tsinyuanho
Hiutsiaho
Uyuho
Baichaho
Tsiaoho
Dadaho
Manlaho
Suiho
Huichiho
Tsialiaobeho


KOREA B
PECHILI
PECHILI STRAIT
YELLOW S
CABLES
Talienwan Bay
Dalny
Port Arthur (Lushunko)
Laotesankaukudunta
Litura
Shangkautsz
Suesshering
Kwejatun
Chingni
Tinchentsz
Swangtaiko
Tochentsz
Swangkau
Liushodun
Shajahotsz
Mansanszelipa
Talangshen
Jinchau (Kinchoo)
Fujadien
Sanlichwang
Szesanlitaitsz
Kangmila
Hwayuen
Tokitai I.
Kaoshan I.
Tachushan I.
Takishan I.
Chanshan I.
DENJEUFU
Ulitsiao
Santai
Kundziachwan
Lungeu
C. Tsimatai
Hwansian
Beitatsi
Ansindian
Luitsiaan
Ushilifu
Pinchan
Yasiahuan
Jukeudin
Hwangshanhwang
Sichhanding
Jujiaojen
Pinlidin
Shilipu
LAICHHEUFU
Chhaoyuan
Tsiaosin
Nanyuanchwang
Tsiuanshuidan
Liutsiading
Kusin
Fushan
Chifu (Yantai)
Ninhaijou
Weihaiwei
Liukundao I.
Chanfinchai
Yekao
C. Shantung
Zhunchen
Lidao
Sinshanso
Sankai B.
Siaolo
Wenden
Luntsuntai
Erlshilifu
Tsaitoutsi
Haotsun
Tsishantsai
Nintsinso
Shidao (Mosyedao) I.
Tsinhaiwei
Staunton I.
Yulidaikoi B.
Tsyinkai B.
Sisia
Sikou
Luitsia
Houtsia
Seshantitsia
Kousiadian
Siadian
Shitou
Santsintin
Laiyan
Wanchhontwang
Shiludian
Tsuitsiapu
Jushantsai
Nankwantsi
Haiyanso
Tsingwanhe
Haiyan
Dashanso
Tsintsiakou
Laitsiajwan
Mintszetsuikoi B.
Hwanlunchwan
C. Adkin
Tszinlitai I.
Shengtang
Haitsen
Shaho
Huibu
Sinhotsiao
Chenyi
Hantinyding
Sanyuantsi
Diantsi
Pinducheu
Kiyueng
Aitsu
Madian
L. Bomu
Haomi
Taotsiajwan
Tsujeutsi
Tsinheu
Chinosan
Tsiacheu
Tsimo
Sitai
Paijiho
Tsujautsi
Juchen
Chilianchwan
Kiauchau
Tsingtao
Tunkiakeu
C. Yadai
Niuhukeu
Toloshan I.
Linshanwei
Hwuheso
Zhijao
Andunwei
Hinkiuchin
Yuchau I.
Funhwantsin
Zhushanho
Uyanho
Dzino
Huangchuiho
Tsinyuiho
Hotsiaho
Kiuchiho
Baickaho
Tsiaoho
Daduho
Manlaho
Suiho
Tsiliaoho

XUM


BAY
E A
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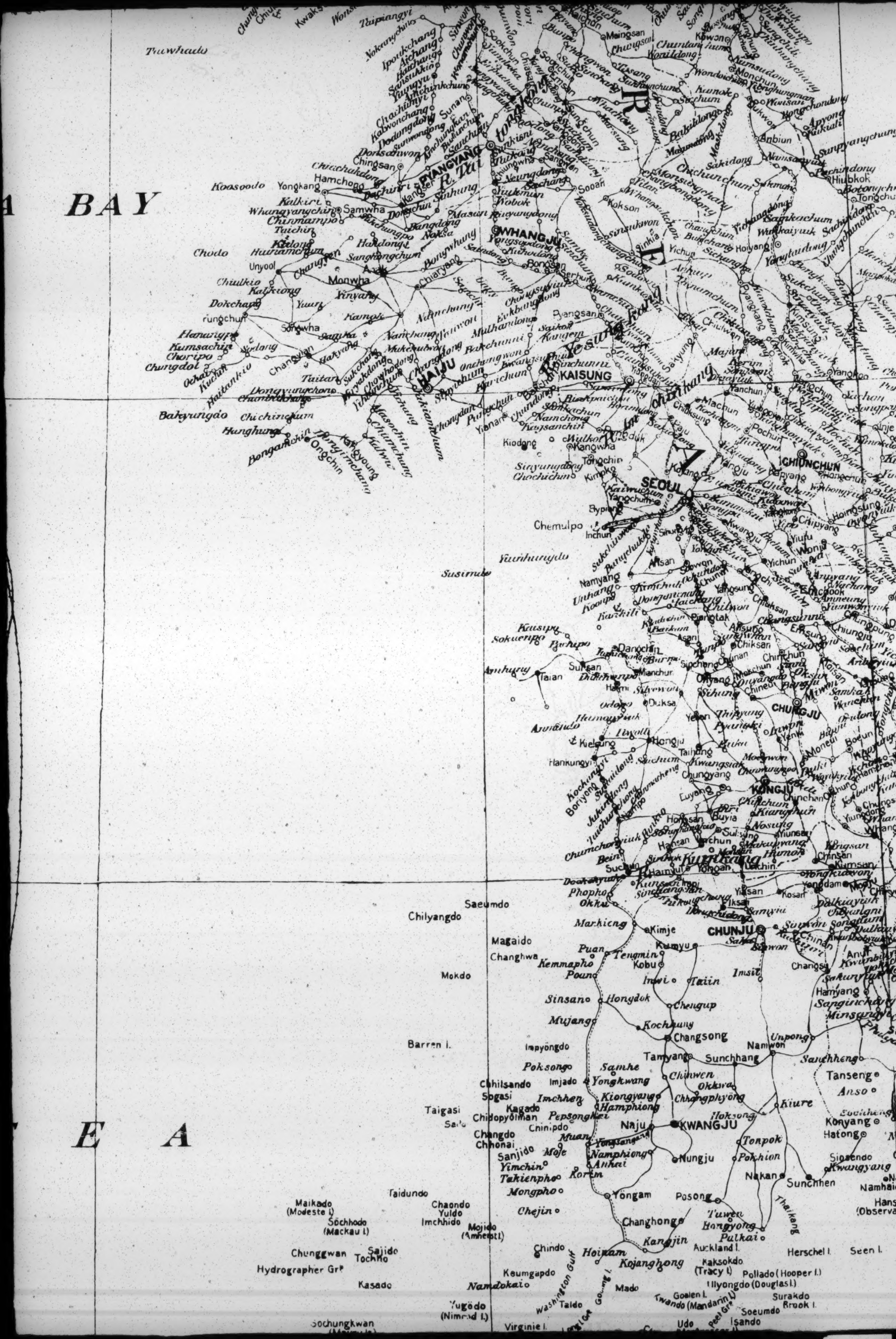
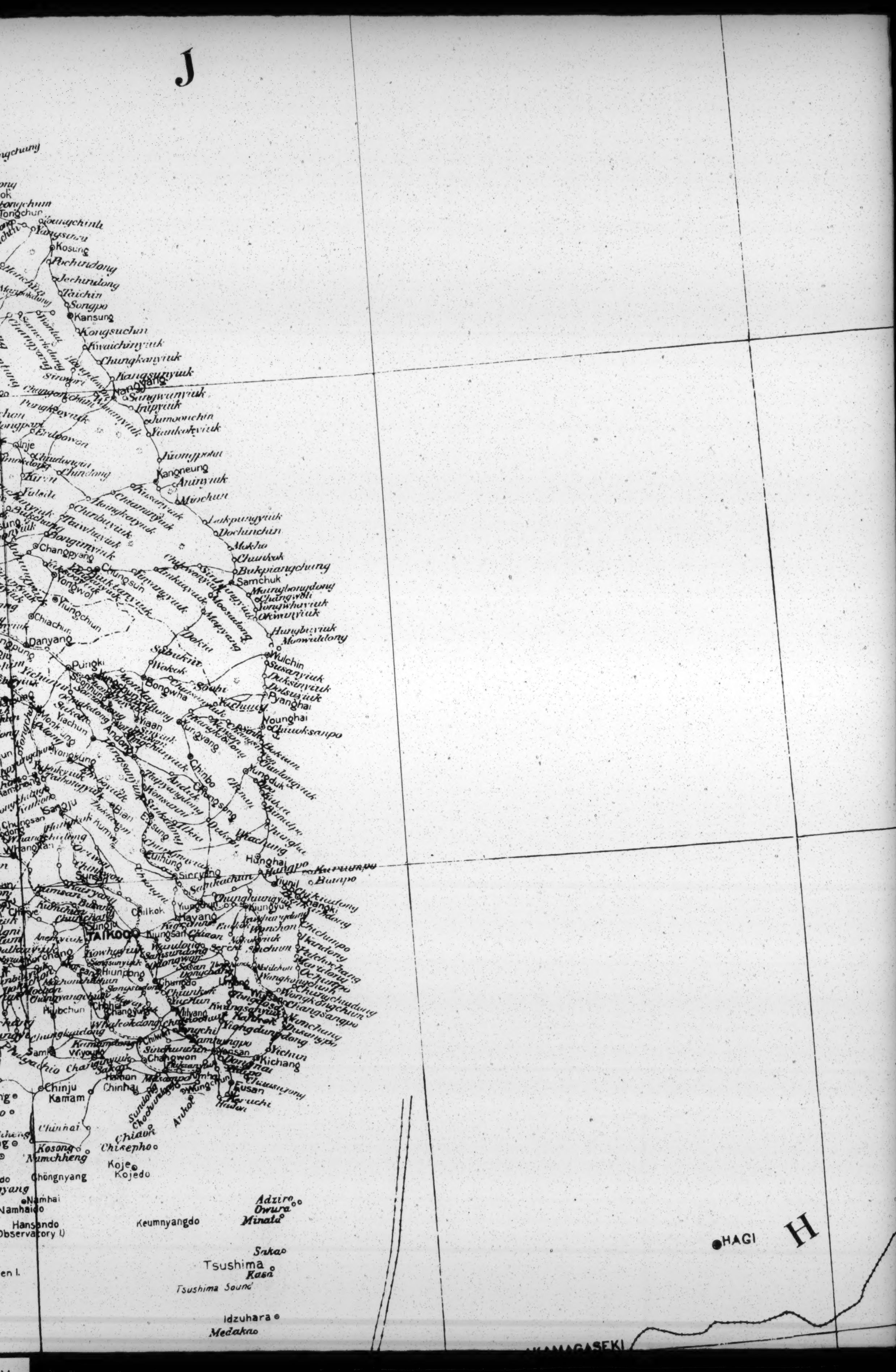
PYANGYANG
WHANGJU
HAIJU
KAISUNG
R. Yesung kang
R. Im chinkang
SEOUL
Chemulpo
Inchun
CHIUNCHUN
CHUNGJU
KONGJU
R. Kumkang
CHUNJU
KWANGJU
Chinampo
Chodo
Kosoodo
Yongkang
Ongchin
Kangwha
Yunhungdo
Susimdo
Namyang
Taian
Chilyangdo
Saeumdo
Magaido
Changhwa
Mokdo
Barren I.
Impyongdo
Chilsando
Taigasi
Chindo
Taidundo
Maikado (Modeste I.)
Söchhodo (Mackau I.)
Chunggwan
Tochho
Sajido
Hydrographer Grᵖ
Kasado
Chaondo
Yuldo
Imchhido
Mojido (Amherst I.)
Keumgapdo
Namdokai
Washington Gulf
Yugodo (Nimrod I.)
Sochungkwan (Maury Is.)
Henksando (Ross I.)
Taldo
Virginie I.
Montebello I.
Mado
Auckland I.
Kaksokdo (Tracy I.)
Pollado (Hooper I.)
Ilyongdo (Douglas I.)
Herschel I.
Seen I.
Goalen I.
Kwando (Mandarin I.)
Surakdo
Brook I.
Soeumdo
Isando
Udo (Montressor I.)
Nanhow Grᵖ
Kujukdo
Port Hamilton
Komundo
Chhongsando (Serrated I.)
Soando
Crichton Hᵣ.
Tainang (Montravel)
Pinnacle I.
Aodo (Castle I.)
Hansando (Observatory I.)
Namhai
Namhaido
Chinju
Tanseng
Kimje
Naju
Yongam
Kangjin
Posong
Sunchhen
Namwon


A BAY
E A
Tuwhado
Koosoodo
Yongkang
Hamchong
Chingsan
PYANGYANG
R. Tai
tongkang
Chinnampo
Samwha
Chodo
Unyool
Monwha
Dokchang
Hanangpo
Kumsachin
Choripo
Chungdol
WHANGJU
Bongsan
HAIJU
KAISUNG
R. Yesung kang
Pyangsan
Bakyungdo
Chichinchum
Hunghung
Bongamchin
Ongchin
Kiodong
Kangwha
Tongchin
Kimpo
Sinyungdong
Chochichin
SEOUL
Yangchun
Chemulpo
Inchun
Yanghwa
Susimuk
Namyang
Unhang
Koonpo
Suwon
Yongin
Icheon
Kaisipo
Sokuenpo
Anhung
Taian
Dangchin
Ahsan
Pyongtak
Onyang
Chiksan
Chinchun
CHUNGJU
CHIUNCHUN
Yichun
Kielsung
Hongju
Hankungyi
Boriyong
Chungyang
KONGJU
Euyong
Hansan
Sochun
Kumgang
Imchun
Iksan
Yongan
Phopho
Okku
Markieng
Kimje
CHUNJU
Kumyu
Chilyangdo
Saeumdo
Magaido
Changhwa
Kemmapho
Poan
Puan
Tengmin
Kobu
Mokdo
Inwi
Taiin
Sinsano
Hongdok
Mujango
Chengup
Kochhang
Changsong
Barren I.
Impyongdo
Tamyang
Sunchhang
Namwon
Unpong
Poksong
Imjado
Samhe
Yongkwang
Chinwen
Okkwa
Chhilsando
Sogasi
Imchhen
Kiongyang
Hamphiong
Changphyong
Taigasi
Kagado
Chidopyolman
Pepsongkei
Naju
KWANGJU
Hoksong
Kiure
Chinipdo
Changdo
Chhonai
Muan
Yongsangang
Sanjido
Moje
Namphiong
Yimchin
Anhai
Nungju
Tonpok
Pokhion
Takienpho
Koran
Nakan
Sunchhen
Mongpho
Yongam
Posong
Taidundo
Maikado
(Modeste I.)
Sochhodo
(Mackau I.)
Chaondo
Yuldo
Imchhido
Mojido
(Amherst I.)
Chejin
Tuwen
Hongyong
Changhong
Pulkai
Kangjin
Chungwan
Sajido
Tochho
Hydrographer Grp
Chindo
Hoinam
Kojanghong
Auckland I.
Kaksokdo
(Tracy I.)
Polado (Hooper I.)
Ilyongdo (Douglas I.)
Herschel I.
Seen I.
Kasado
Keumgapdo
Namdokai
Mado
Goelen I.
Twando (Mandarin I.)
Surakdo
Brook I.
Soeumdo
Yugodo
(Nimrod I.)
Taldo
Washington Gulf
Virginie I.
Udo
Isando
Sochungkwan
Tansenge
Anso
Konyang
Hatong
Sinaendo
Kwangyang
Namhai
Hamyang
Imsil
Changsu
Kumsan
Yongdam
Chinan
Sanchhong
Anui
Yesan
Hongju
Yiksan
Kosan
XUM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Pochundong
Jechundong
Taichin
Songpo
Kansung
Kongsuchun
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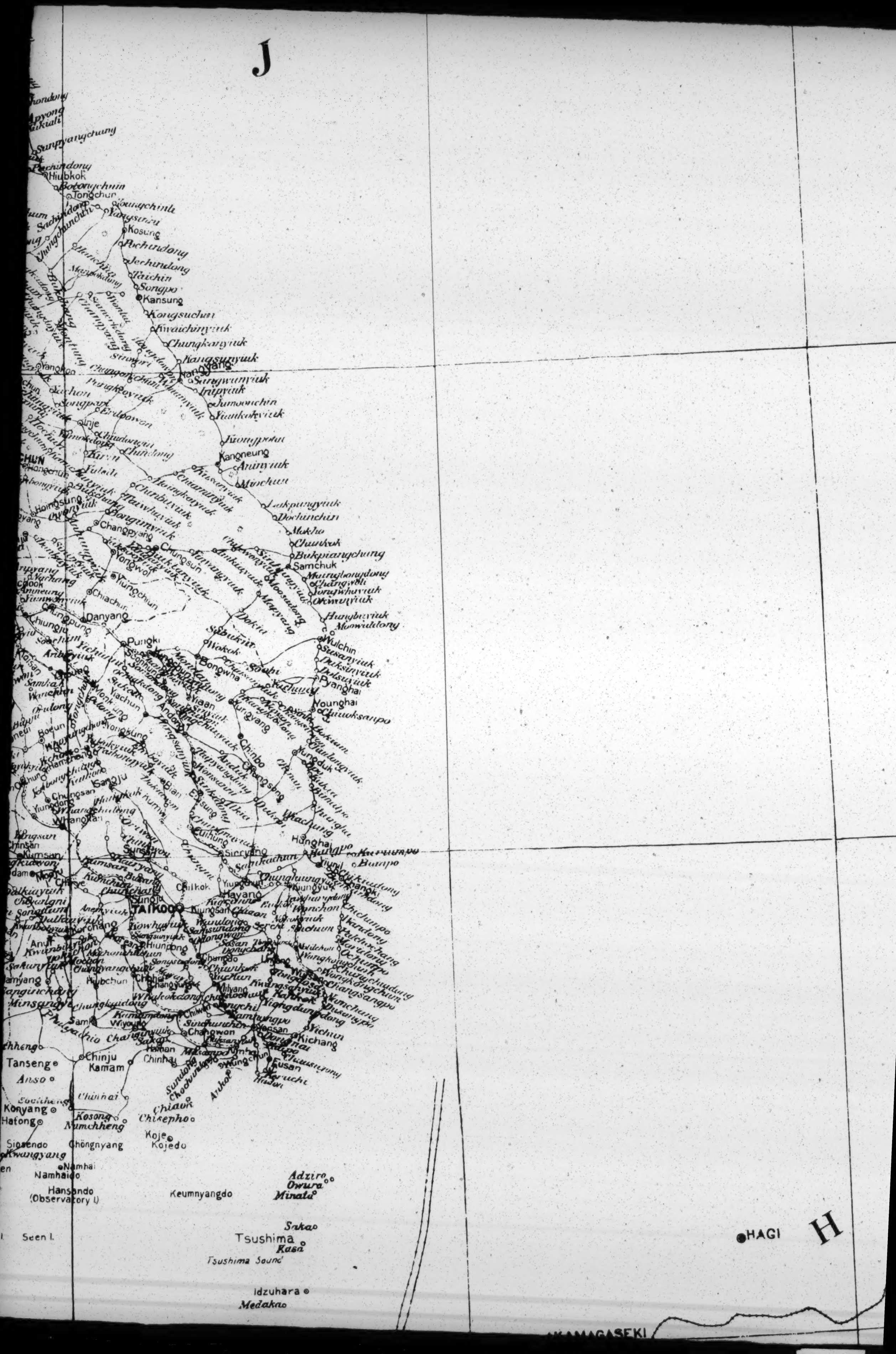
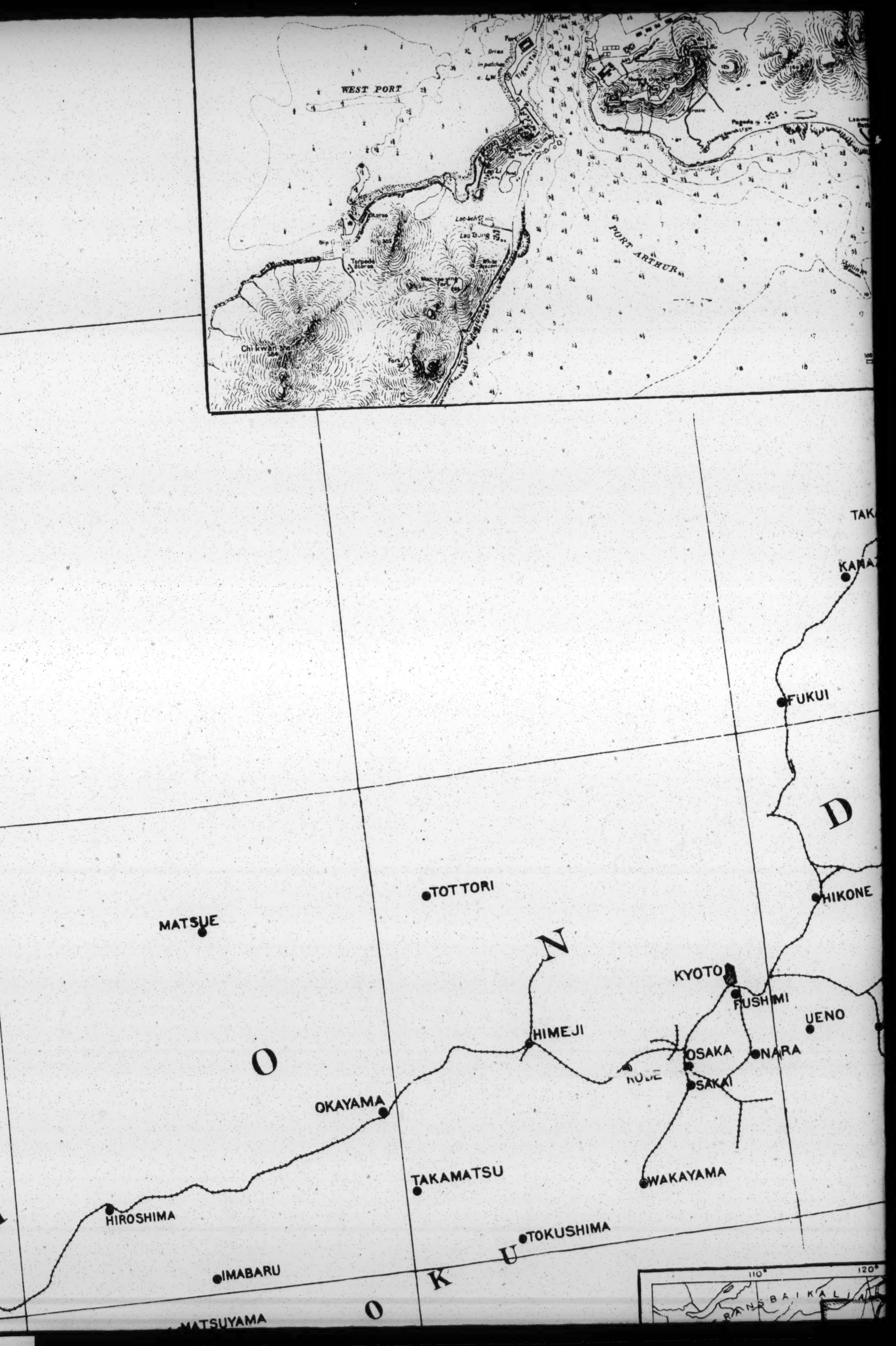
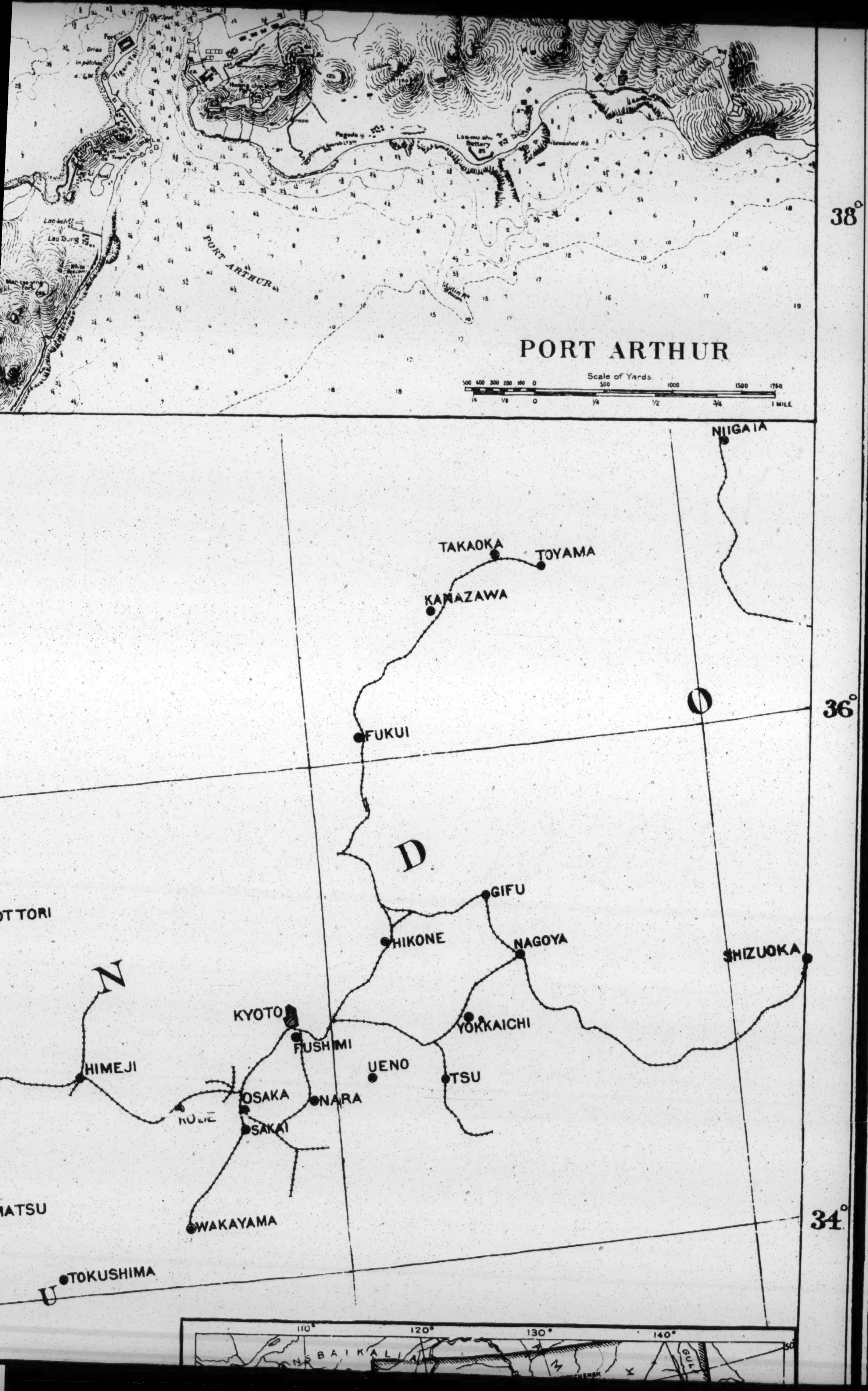
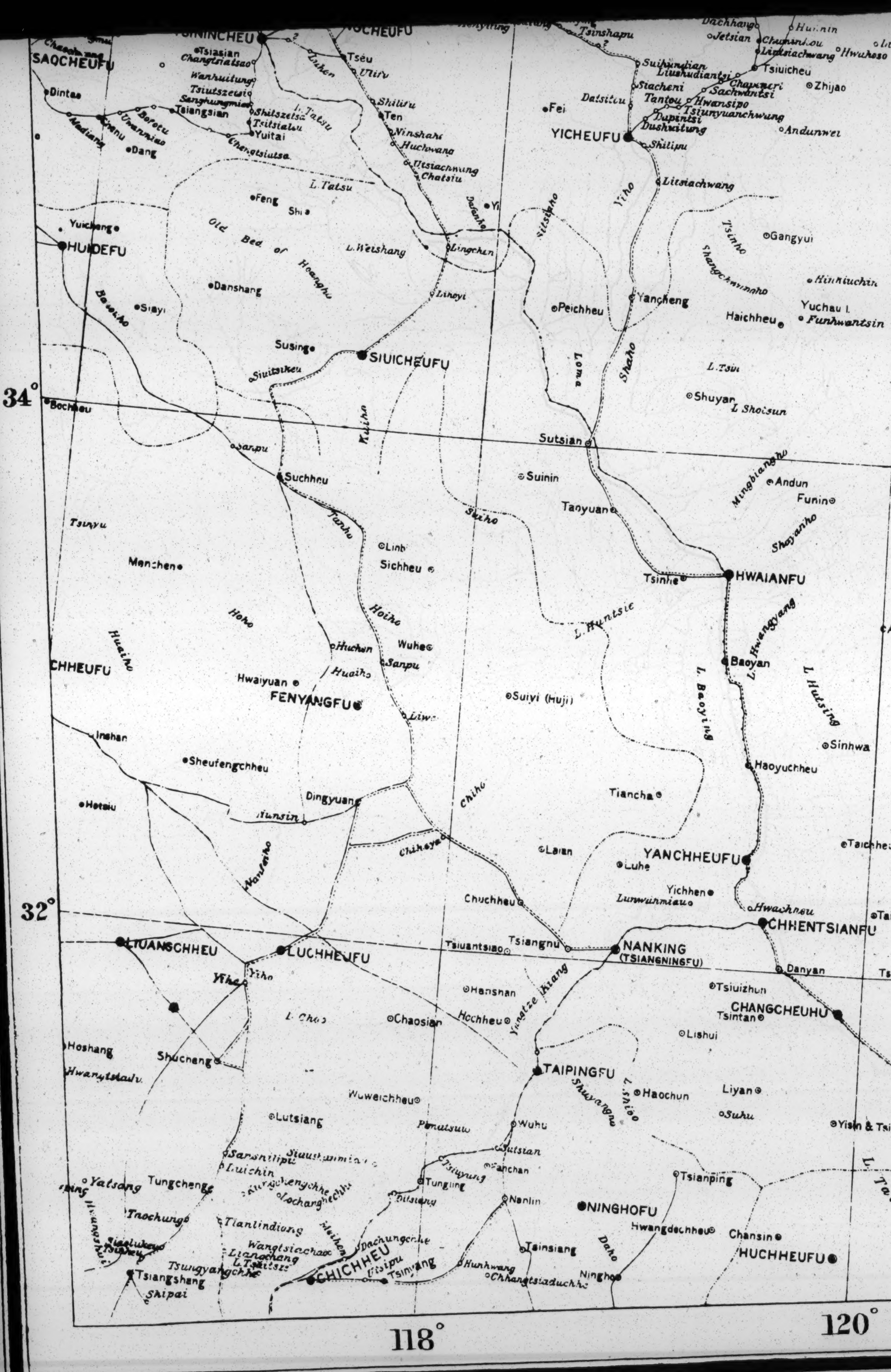
Chungkanyiuk
Kangsunyiuk
Yangyang
Sangwunyiuk
Inpyiuk
Jumoonchin
Yunkokyiuk
Inje
Kiongpotai
Kangneung
Aninyiuk
Minchun
Chiudongin
Chindong
Lakpungyiuk
Dochunchin
Mokho
Chunkok
Changpyang
Chungsun
Bukpiangchung
Samchuk
Changwoli
Yongwol
Yiungchun
Chiachun
Danyang
Hungbuyiuk
Moowuldong
Wulchin
Susanyiuk
Puingki
Bongwha
Pyanghai
Younghai
Chuoksanpo
Yiaan
Andong
Chinbo
Yongkung
Chungsong
Yongduk
Sangju
Bian
Chungsan
Hunghai
Hungpo
Bunpo
Siiryang
Chilkok
Havang
TAIKOO
Chungdo
Milyang
Changwon
Kichang
Fusan
Chinju
Kamam
Chinhai
Chiaon
Chisepho
Kosong
Numchheng
Koje
Kojedo
Chöngnyang
Namhai
Namhaido
Hansando
(Observatory I)
Keumnyangdo
Adziro
Owura
Minato
Saka
Tsushima
Kasa
Tsushima Sound
Idzuhara
Medaka
HAGI
H
SHIMONOSEKI


J
Sungpyangchung
Hiubkok
Tongchun
Kosung
Pochundong
Jechundong
Taichin
Songpo
Kansung
Kongsuchun
Kwaichinyiuk
Chungkanyiuk
Kangsunyiuk
Yangyang
Sangwunyiuk
Inipyiuk
Jumoonchin
Yiankokyiuk
Yangok
Inje
Kangneung
Aninyiuk
Minchun
Lakpungyiuk
Dochinchin
Mokho
Chunkok
Bukpiangchung
Samchuk
Changpyang
Chunsun
Yongwol
Yiungchiun
Chiachun
Danyang
Hungbuyiuk
Moowuldong
Wulchin
Susanyiuk
Puksunyiuk
Dolsuyiuk
Pyanghai
Younghai
Chuwoksanpo
Pungki
Bongwha
Andong
Yiachun
Yiaan
Chinbo
Hungyang
Kungsong
Boeun
Sangju
Chungsan
Yiungdong
Whanggan
Euisung
Sicryung
Hunghai
Hungpo
Yiunil
Chilkok
Hayang
Yiunghun
Kiungju
Chunghwangyung
TAIKOO
Kiungsan
Sunju
Kumsan
Chinsan
Hiunpong
Hiubchun
Chiangnyung
Milyang
Changwon
Kimhai
Tongnai
Kichang
Fusan
Chinhai
Chinju
Kamam
Tansengo
Anso
Konyang
Hatong
Kosong
Numchheng
Chiawk
Chisepho
Koje
Kojedo
Siosendo
Chöngnyang
Kwangyang
Namhai
Namhaido
Hansando
(Observatory I.)
Keumnyangdo
Adziro
Owura
Minato
Saka
Seen I.
Tsushima
Kasa
Tsushima Sound
Idzuhara
Medaka
HAGI
H
AKAMAGASEKI


WEST PORT
PORT ARTHUR
Chi kwan shan
Torpedo Stores
Lao Tsing
MATSUE
TOTTORI
N
O
D
HIMEJI
OKAYAMA
KYOTO
FUSHIMI
UENO
OSAKA
NARA
KOBE
SAKAI
WAKAYAMA
TAKAMATSU
HIROSHIMA
TOKUSHIMA
IMABARU
MATSUYAMA
K
U
O
FUKUI
HIKONE
110°
120°
TRANSBAIKAL

WEST PORT
Stores
Slip
305
Torpedo Stores
Chi-kwan-shan
584
Fort
Lac
TOTT
MATSUE
O
OKAYAMA
TAKAMA
H
HIROSHIMA
HAGI
IMABARU
K
O


Fort
Dries in patches at L.W.
Tiger's Tail
Pagoda
Lao-mu-shu Battery
Whitewashed Rk
Lao-tch
Lao Tsung
White Beacon
PORT ARTHUR
Lutin Rk
PORT ARTHUR
Scale of Yards
500 400 300 200 100 0 500 1000 1500 1760
1/8 0 1/4 1/2 3/4 1 MILE
38°
NIIGATA
TAKAOKA
TOYAMA
KANAZAWA
O
36°
FUKUI
D
GIFU
OTTORI
HIKONE
NAGOYA
SHIZUOKA
N
KYOTO
FUSHIMI
YOKKAICHI
HIMEJI
UENO
TSU
OSAKA
NARA
KOBE
SAKAI
MATSU
WAKAYAMA
34°
TOKUSHIMA
U
110°
120°
130°
140°
TRANSBAIKALIA
GUL
30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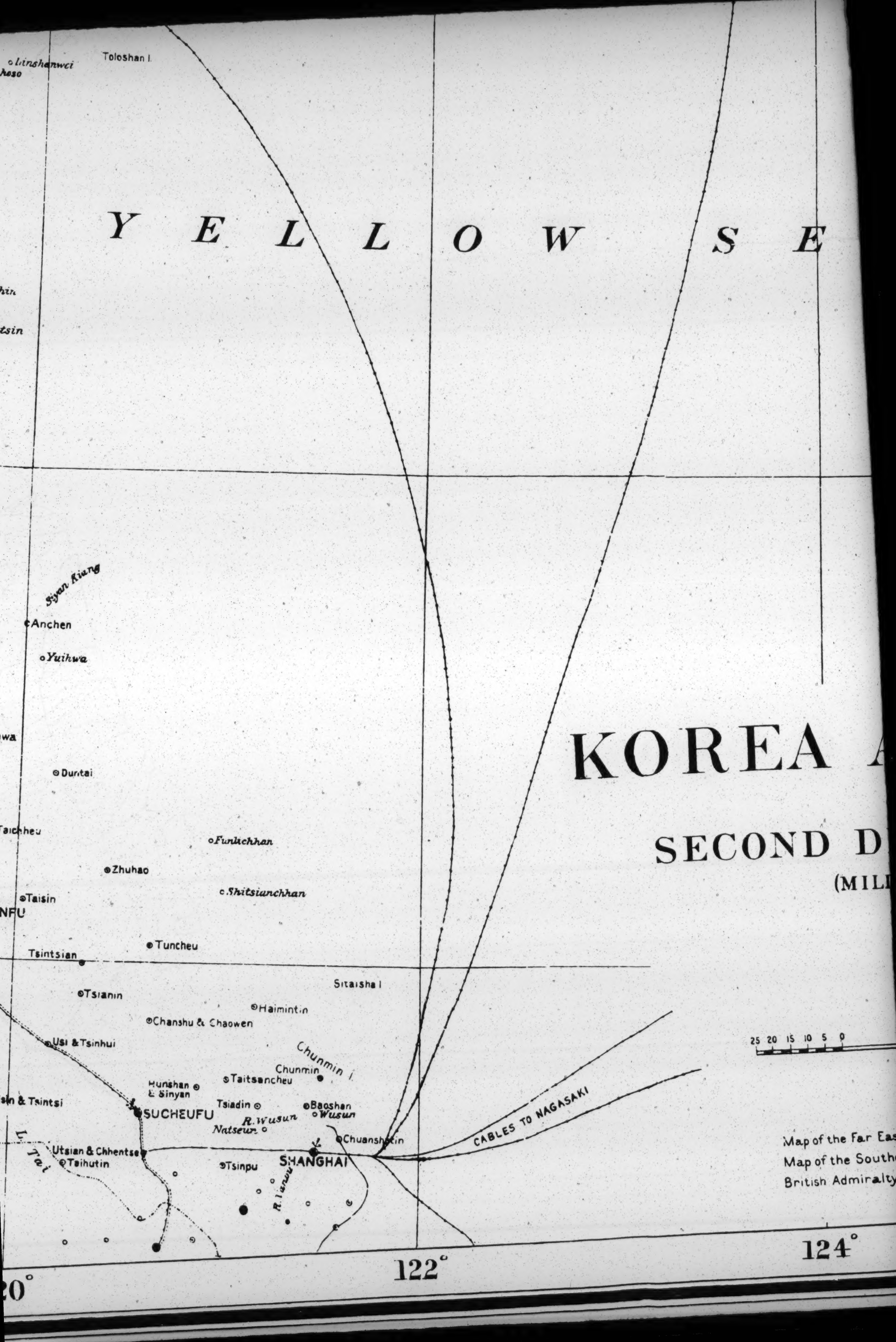
OCHEUFU
SAOCHEUFU
Tsiasian
Changtsiatsao
Wanhuitung
Tsiutszeisi
Sanghungmiao
Tsiangsian
Shiltszetsa
Tsitsiatsu
Yuitai
Dintao
Chengtsiutsa
Dang
Tseu
Ulitu
Shilitu
Ten
Ninshahu
Huchwang
Utsiachmung
Chatsiu
L. Tatsu
Feng
Shi
Yi
Old Bed of Hoangho
L. Weishang
Lingchan
Yuichang
HUIDEFU
Danshang
Siayi
Susing
Siuitsikeu
SIUICHEUFU
Lihoyi
34°
Bochheu
Sanpu
Suchheu
Kuiho
Tsinyu
Menchen
Linbi
Sichheu
Hoiho
Hoho
Huaiho
CHHEUFU
Huchan
Wuhe
Sanpu
Huaiho
Hwaiyuan
FENYANGFU
Liwa
Inshan
Sheufengchheu
Dingyuan
Hetsiu
Hunsin
Chiho
Chiheya
Wanfaiho
Chuchheu
32°
LIUANSCHHEU
LUCHHEUFU
Yiho
Yiho
L. Chao
Chaosian
Hoshang
Hwangtsiatu
Shucheng
Wuweichheu
Lutsiang
Sarsnilipu
Luichin
Siaushanmiao
Yatsang
Tungcheng
Tsochung
Lochang
Tianlindiang
Meihen
Wangtsiachao
Liangchang
L. Tsaitsi
Tsungyangchhe
Tsiangshang
Shipai
CHICHHEU
Dachungche
Utsipu
Tsinyang
Tsinyang
Tungling
Bitsiang
Hunhwang
Chhangtsiaduchhe
118°
Dachhang
Tsinshapu
Jetsian
Chuninlou
Liutsiachwang
Hwuheso
Tsiuicheu
Suihundian
Liushudiantsi
Siacheni
Sachwantsi
Chaumeri
Zhijao
Tantou
Hwansipo
Tsiunyuanchwung
Dapintsi
Dushuitung
Datsilou
Fei
YICHEUFU
Shilipu
Andunwei
Litsiachwang
Yiho
Sitsipho
Tsinho
Gangyui
Shangchwangho
Hinkiuchin
Yancheng
Peichheu
Haichheu
Yuchau I.
Funhwantsin
Loma
Shaho
L. Tsin
Shuyan
L. Shoisun
Sutsian
Suinin
Mingbiangho
Andun
Funin
Tanyuan
Suiho
Shayanho
Tsinhe
HWAIANFU
L. Huntsie
L. Hwangyang
Baoyan
L. Baoying
L. Hutsing
Suiyi (Huji)
Sinhwa
Haoyuchheu
Tiancha
Laian
Luhe
YANCHHEUFU
Taichheu
Yichhen
Lunwunmiau
Hwachnsu
CHHENTSIANFU
Tsiangnu
Tsiuantsiao
NANKING
(TSIANGNINGFU)
Danyan
Tsiuizhun
Hanshan
CHANGCHEUHU
Tsintan
Hochheu
Yangtze Kiang
Lishui
TAIPINGFU
Shuyangnu
L. Shioo
Haochun
Liyan
Sohu
Penutsuo
Wuhu
Yisin & Tsi
Sutsian
Fanchan
Tsianping
Nanlin
NINGHOFU
Tsinsiang
Daho
Hwangdechheu
Chansin
HUCHHEUFU
Ningho
120°
XUM


KOREA A
SECOND D
(MIL
Y E L L O W S E
o Linshanwei
heso
Toloshan I.
hin
tsin
Siyan Kiang
Anchen
o Yuihwa
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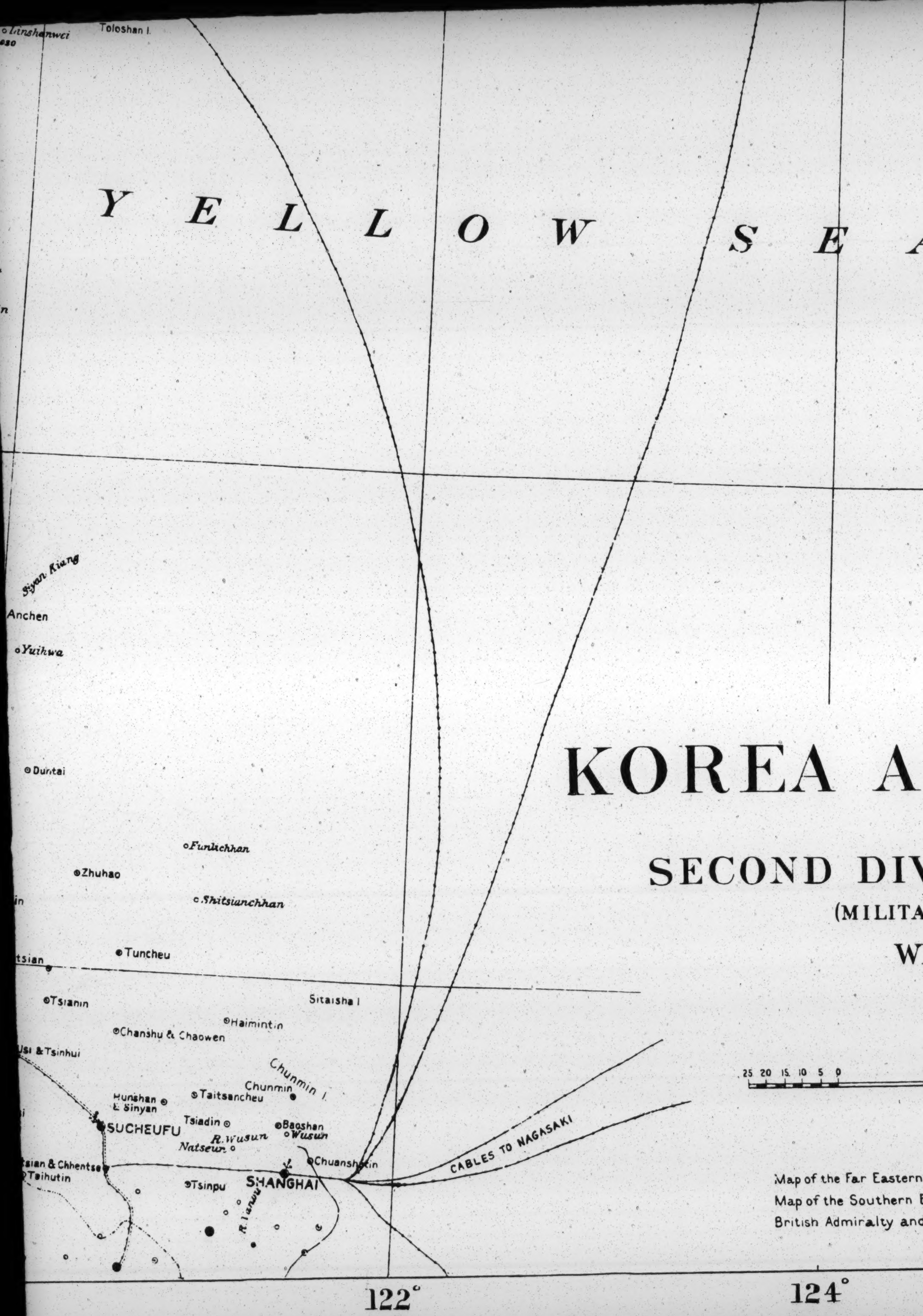
Duntai
Taichheu
o Funlichhan
Zhuhao
c Shitsianchhan
Taisin
NFU
Tuncheu
Tsintsian
Sitaisha I
Tsianin
Haimintin
Chanshu & Chaowen
Usi & Tsinhui
Chunmin I.
Chunmin
Taitsancheu
Hunshan & Sinyan
sin & Tsintsi
Tsiadin
Baoshan
o Wusun
SUCHEUFU
R. Wusun
Natseur
Chuanshatin
CABLES TO NAGASAKI
L. Tai
Utsian & Chhentse
Taihutin
Tsinpu
SHANGHAI
R. Lanwu
25 20 15 10 5 0
122°
124°
20°

Map of the Far Eas
Map of the South
British Admiralty


Linshanwei
Toloshan I.
Y E L L O W S E A
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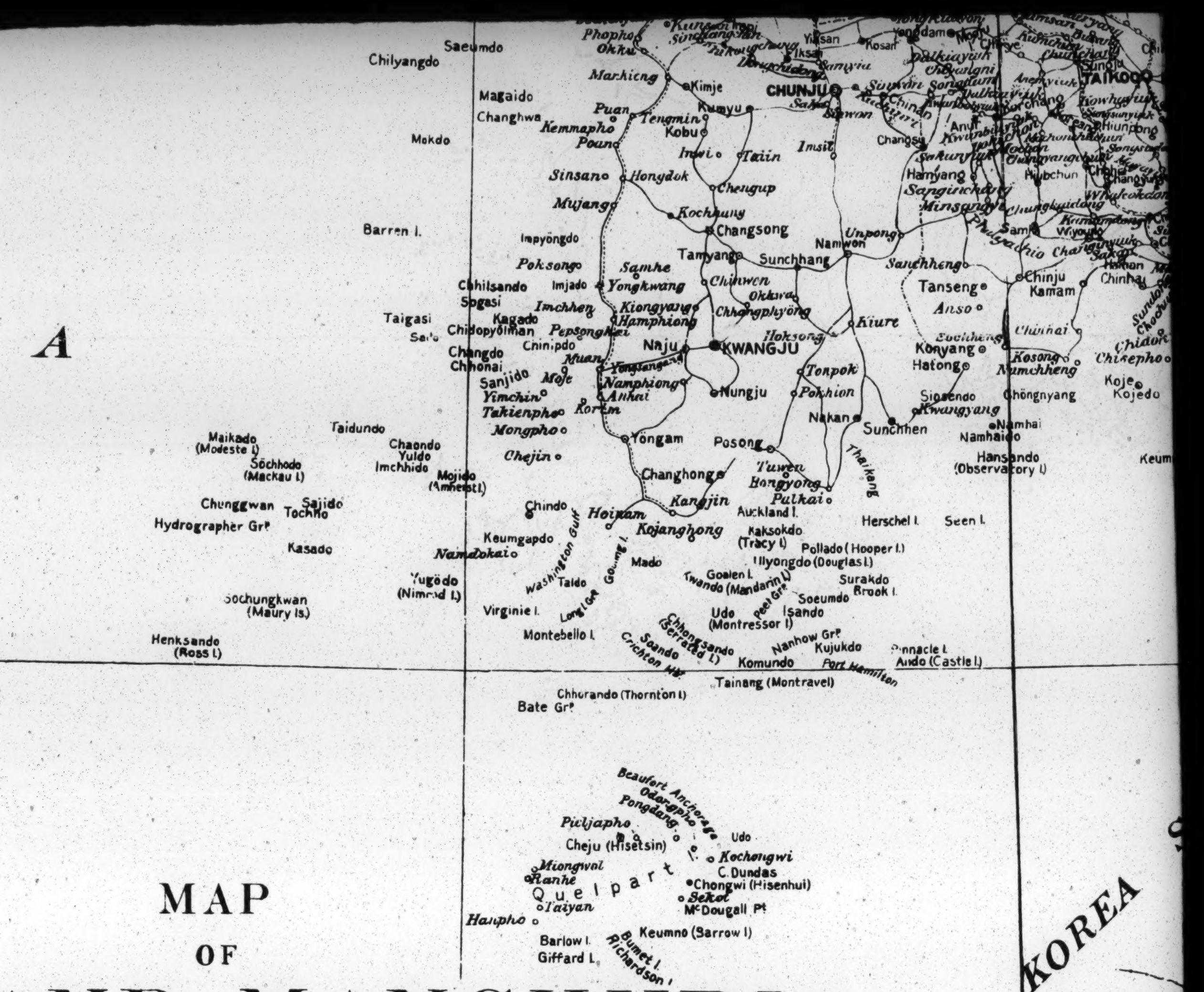
Anchen
Yuihwa
Duntai
Funlichhan
Zhuhao
Shitsianchhan
Tuncheu
Sitaisha I
Tsianin
Haimintin
Chanshu & Chaowen
Usi & Tsinhui
Chunmin I.
Chunmin
Hunshan & Sinyan
Taitsancheu
SUCHEUFU
Tsiadin
Baoshan
Wusun
R. Wusun
Natseun
Chuanshatin
Tsian & Chhentse
Taihutin
Tsinpu
SHANGHAI
R. Yanwu
CABLES TO NAGASAKI
KOREA A
SECOND DIV
(MILITA
W
25 20 15 10 5 0
Map of the Far Eastern
Map of the Southern
British Admiralty and
122°
124°

XUM


A
Saeumdo
Chilyangdo
Magaido
Changhwa
Mokdo
Barren I.
Impyongdo
Poksong
Chilsando
Sogasi
Taigasi
Kagado
Chidopyolman
Changdo
Chhonai
Sanjido
Yimchin
Takienpho
Mongpho
Chejin
Taidundo
Maikado (Modeste I.)
Sochhodo (Mackau I.)
Chaondo
Yuldo
Imchhido
Mojido (Amherst I.)
Chunggwan
Tochho
Sajido
Hydrographer Grp.
Kasado
Chindo
Keumgapdo
Namdokai
Washington Gulf
Yugodo (Nimrod I.)
Taldo
Goulding I.
Long I.
Virginie I.
Montebello I.
Sochungkwan (Maury Is.)
Henksando (Ross I.)
Phopho
Okku
Markieng
Kimje
Puan
Tengmin
Kemmapho
Poan
Kobu
Kumyu
Sinsano
Hongdok
Mujang
Imsil
Taiin
Cheugup
Kochhang
Changsong
Tamyang
Sunchhang
Namwon
Unpong
Samhe
Yongkwang
Chinwen
Okkwa
Imjado
Imchhen
Kiongyang
Hamphiong
Pepsongkei
Chinipdo
Muan
Naju
KWANGJU
Chhangphyong
Hoksong
Kiure
Yongsangang
Moje
Namphiong
Anhai
Korim
Nungju
Tonpok
Pokhion
Nakan
Sunchhen
Thaikang
Yongam
Posong
Changhong
Tuwen
Hongyong
Kangjin
Pulkai
Hoinam
Kojanghong
Auckland I.
Kaksokdo (Tracy I.)
Mado
Goalen I.
Twando (Mandarin I.)
Ilyongdo (Douglas I.)
Pollado (Hooper I.)
Peel Grp.
Surakdo
Brook I.
Soeumdo
Udo (Montressor I.)
Isando
Chhongsando (Serratia I.)
Soando
Crichton Hr.
Nanhow Grp.
Kujukdo
Komundo
Port Hamilton
Pinnacle I.
Ando (Castle I.)
Tainang (Montravel)
Chhorando (Thornton I.)
Bate Grp.
Herschel I.
Seen I.
CHUNJU
Yiksan
Kosan
Yongdam
Sunwon
Songdam
Chinan
Changsu
Hamyang
Sanginchang
Minsang
Tanseng
Anso
Kionyang
Hatong
Sinsendo
Kwangyang
Namhai
Namhaido
Hansando (Observatory I.)
Chinju
Kamam
Chinhai
Kosong
Kumchheng
Chidon
Chisepho
Koje
Kojedo
Chongnyang
Keum
TAIKOO
Sam
Beaufort Anchorage
Odongpho
Pongdang
Pukjapho
Cheju (Hisetsin)
Udo
Kochongwi
C. Dundas
Chongwi (Hisenhui)
Sekot
McDougall Pt.
Miongwol
Hanhe
Quelpart I.
Taiyan
Hanpho
Keumno (Sarrow I.)
Barlow I.
Giffard I.
Burnet I.
Richardson I.
KOREA

MAP

OF

AND MANCHURIA

PREPARED BY THE

IVISION, GENERAL STAFF

ITARY INFORMATION DIVISION)

WAR DEPARTMENT

WASHINGTON, U. S. A.

FEBRUARY. 1904.

SCALE OF MILES

25 50 75 100 125 150

REPRINT

AUTHORITIES

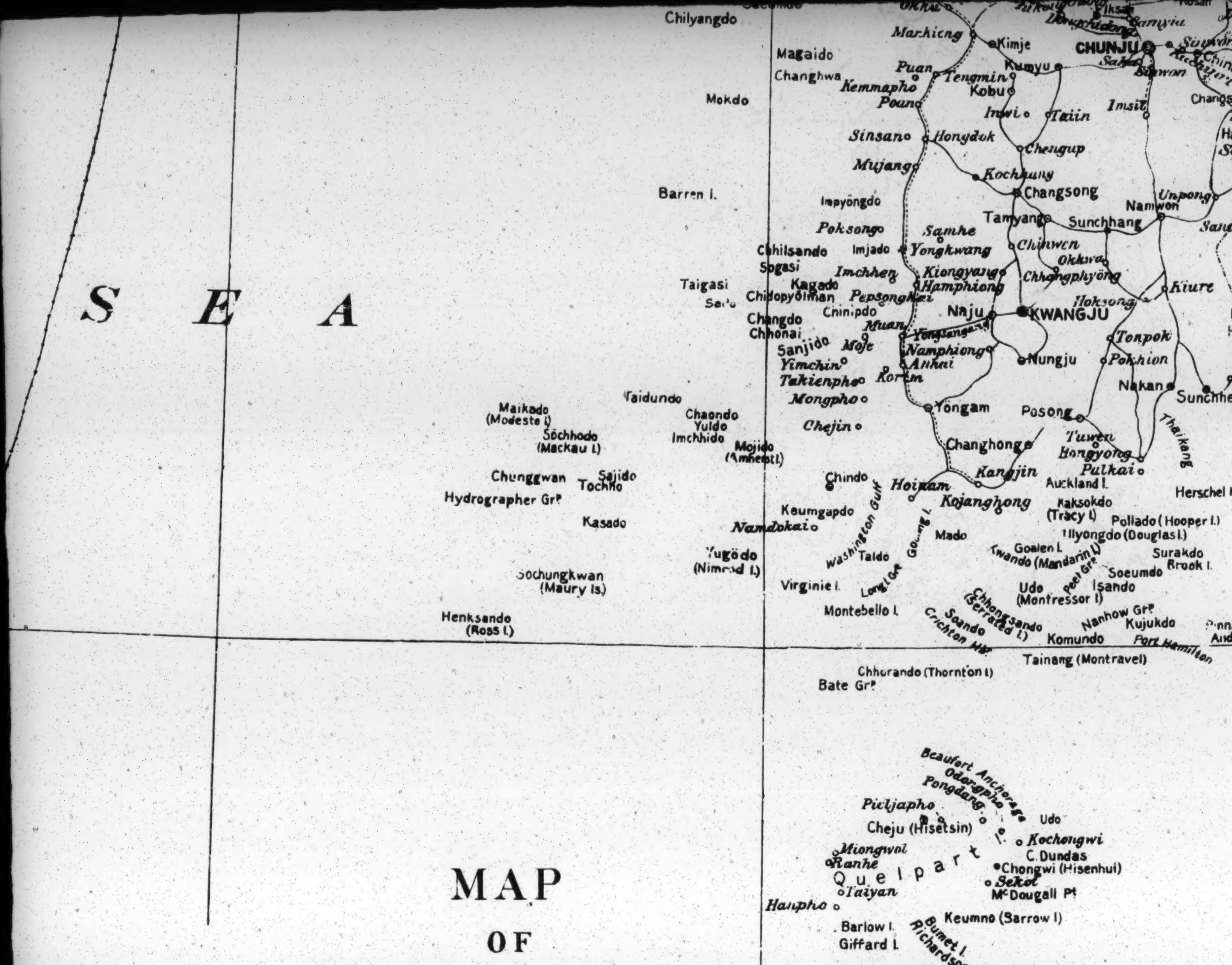
stern Spheres of Russian Influence, by the Amur Society of Japan.

ern Boundary Region of Asiatic Russia, by the Russian General Staff

and U.S. Hydrographic Charts

Note : Korea generally mountainous. ● Wells on caravan routes in Desert of Gobi.

136° *Longitude East from Greenwich* 128°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Chilyangdo
Magaido
Changhwa
Mokdo
Markiong
Kimje
CHUNJU
Puan
Kemmapho
Poan
Tengmin
Kumyu
Kobu
Imsil
Inwi
Taiin
Sinsano
Hongdok
Chengup
Mujang
Kochhang
Changsong
Barren I.
Impyongdo
Namwon
Unpong
Poksong
Samhe
Yongkwang
Tamyang
Sunchhang
Chhilsando
Sogasi
Imjado
Chinwen
Okkwa
Taigasi
Kagado
Imchhen
Kiongyang
Hamphiong
Chhangphyong
Chidopyolman
Pepsongpho
Chinipdo
Naju
KWANGJU
Hoksong
Kiure
Changdo
Chhonai
Muan
Yongsangang
Sanjido
Moje
Namphiong
Tonpok
Yimchin
Anhai
Nungju
Pokhion
Takienpho
Korim
Nakan
Sunchhen
Mongpho
Yongam
Posong
Maikado (Modeste I.)
Taidundo
Chaondo
Yuldo
Imchhido
Sochhodo (Mackau I.)
Mojido (Amherst I.)
Chejin
Tuwen
Changhong
Hongyong
Thaikang
Pulkai
Chunggwan
Sajido
Tochho
Hydrographer Grp.
Chindo
Hoinam
Kangjin
Auckland I.
Herschel I.
Kojanghong
Kaksokdo (Tracy I.)
Kasado
Keumgapdo
Namdokai
Mado
Polado (Hooper I.)
Ilyongdo (Douglas I.)
Yugodo (Nimrod I.)
Washington Gulf
Taldo
Gouing I.
Goalen I.
Twando (Mandarin I.)
Surakdo
Brook I.
Sochungkwan (Maury Is.)
Peel Grp.
Soeumdo
Isando
Virginie I.
Long I.
Udo (Montressor I.)
Henksando (Ross I.)
Montebello I.
Chhongsando (Serrated I.)
Soando
Crichton Hr.
Nanhow Grp.
Kujukdo
Komundo
Port Hamilton
Tainang (Montravel)
Chhorando (Thornton I.)
Bate Grp.
Beaufort Anchorage
Odoripho
Pongdang
Pieljapho
Cheju (Hisetsin)
Udo
Kochongwi
C. Dundas
Miongwol
Ranhe
Quelpart I.
Chongwi (Hisenhui)
Sekot
McDougall Pt.
Taiyan
Hanpho
Keumno (Sarrow I.)
Barlow I.
Giffard I.
Bumet I.
Richardson I.

MAP
OF
REA AND MANCHURIA

PREPARED BY THE
ECOND DIVISION, GENERAL STAFF
(MILITARY INFORMATION DIVISION)
WAR DEPARTMENT
WASHINGTON, U. S. A.

FEBRUARY, 1904.

SCALE OF MILES

25 20 15 10 5 0 25 50 75 100 125 150

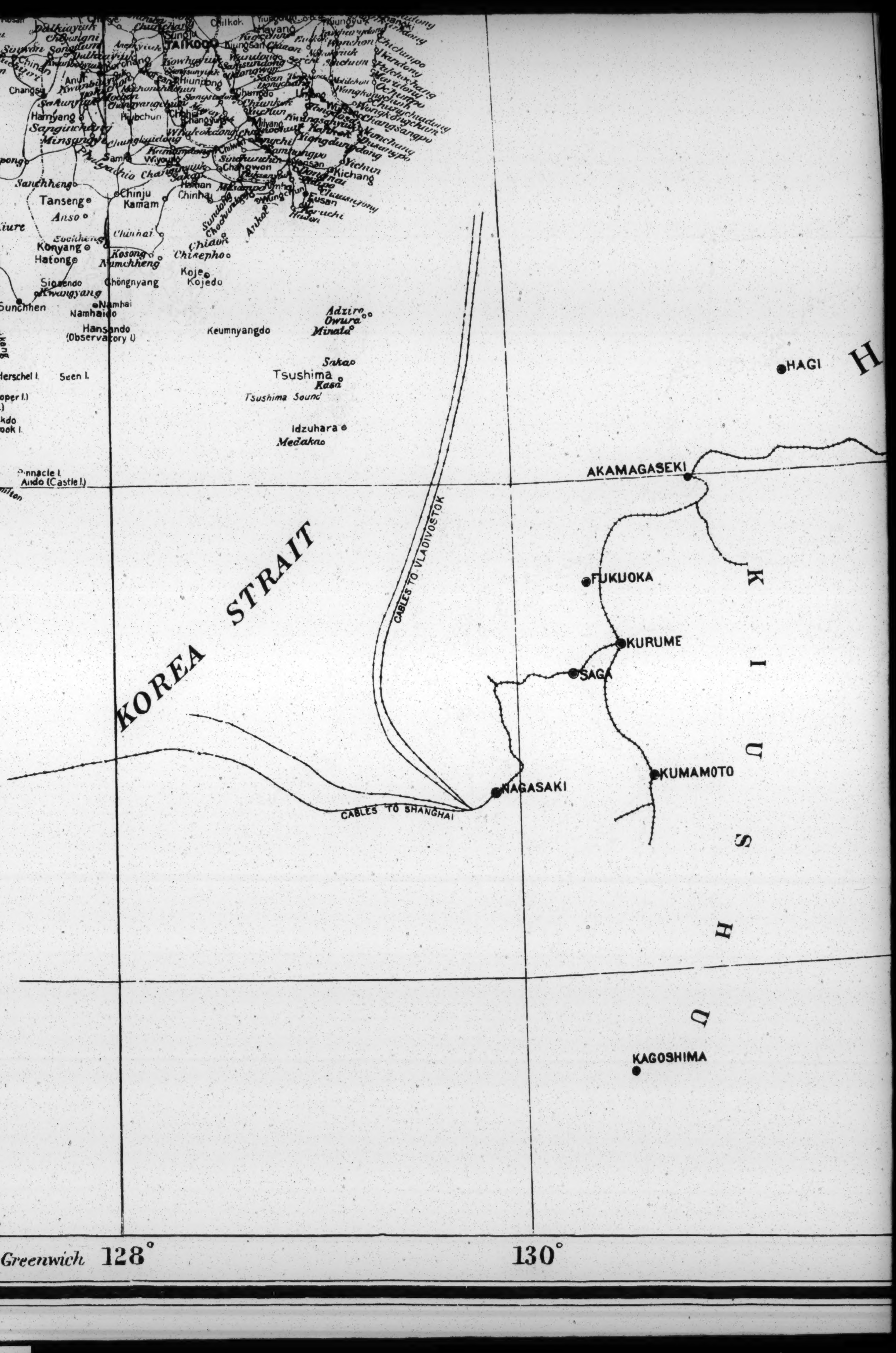
REPRINT

AUTHORITIES

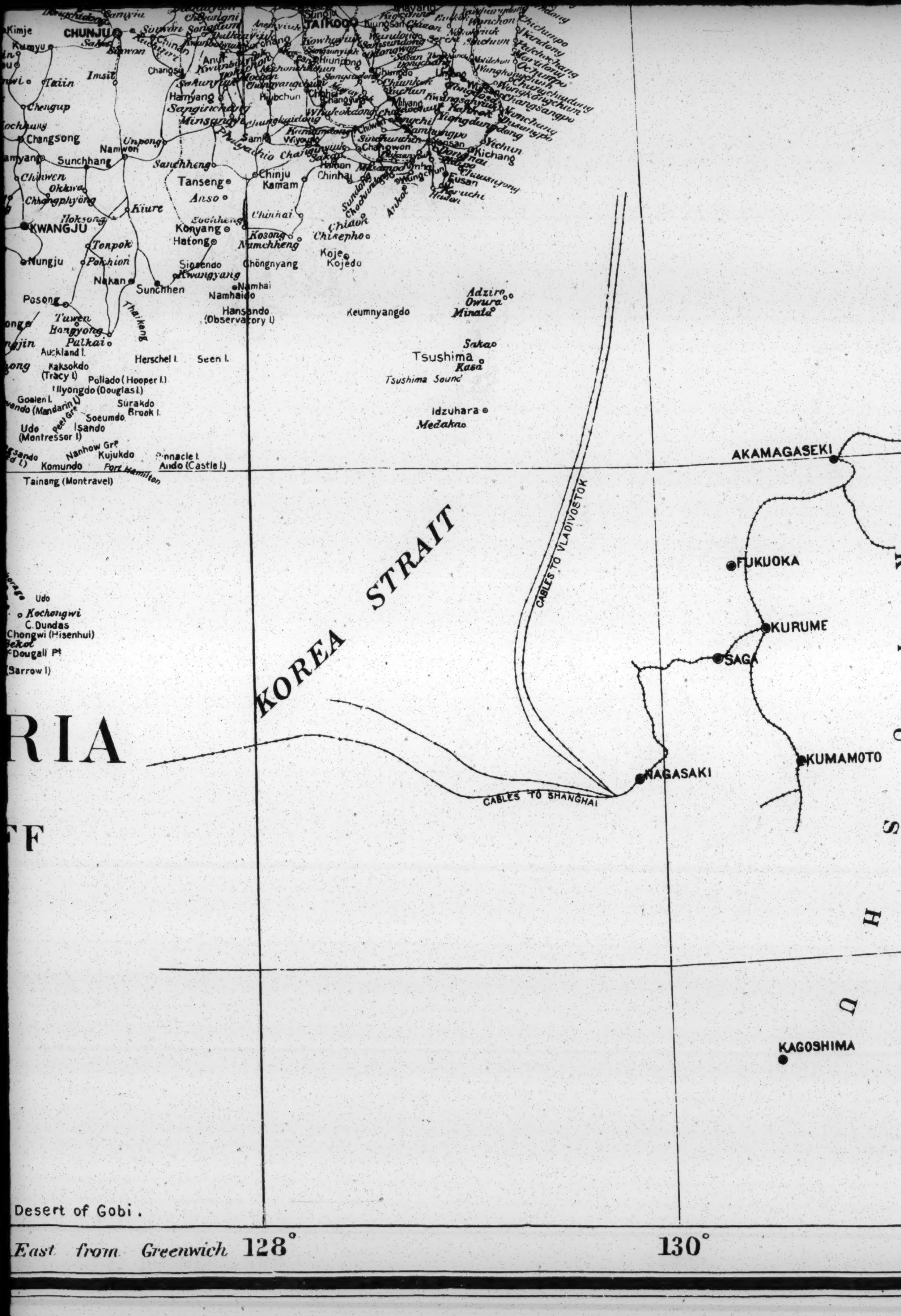
Map of the Far Eastern Spheres of Russian Influence, by the Amur Society of Japan.
Map of the Southern Boundary Region of Asiatic Russia, by the Russian General Staff
British Admiralty and U.S. Hydrographic Charts

Note: Korea generally mountainous. ● Wells on caravan routes in Desert of Gobi.

124° 136° *Longitude East from Gree*



TAIKOGO
Hayang
Chilkok
Kiungsan
Changsu
Hamyang
Sanginchang
Minsangye
Hiubchun
Sam
Wiyang
Chinju
Kamam
Chinhai
Chahowon
Fusan
Sanchheng
Tanseng
Anso
Konyang
Hatong
Kosong
Numchheng
Chisepho
Chidon
Koje
Kojedo
Siosendo
Kwangyang
Sunchhen
Namhai
Namhaido
Hansando
(Observatory I.)
Chöngnyang
Keumnyangdo
Adziro
Owura
Minato
Saka
Tsushima
Kasa
Tsushima Sound
Idzuhara
Medaka
Herschel I.
Seen I.
Pinnacle I.
Ando (Castle I.)
HAGI
AKAMAGASEKI
KOREA STRAIT
CABLES TO VLADIVOSTOK
CABLES TO SHANGHAI
FUKUOKA
KURUME
SAGA
NAGASAKI
KUMAMOTO
KIUSHIU
KAGOSHIMA
Greenwich
128°
130°


KOREA STRAIT
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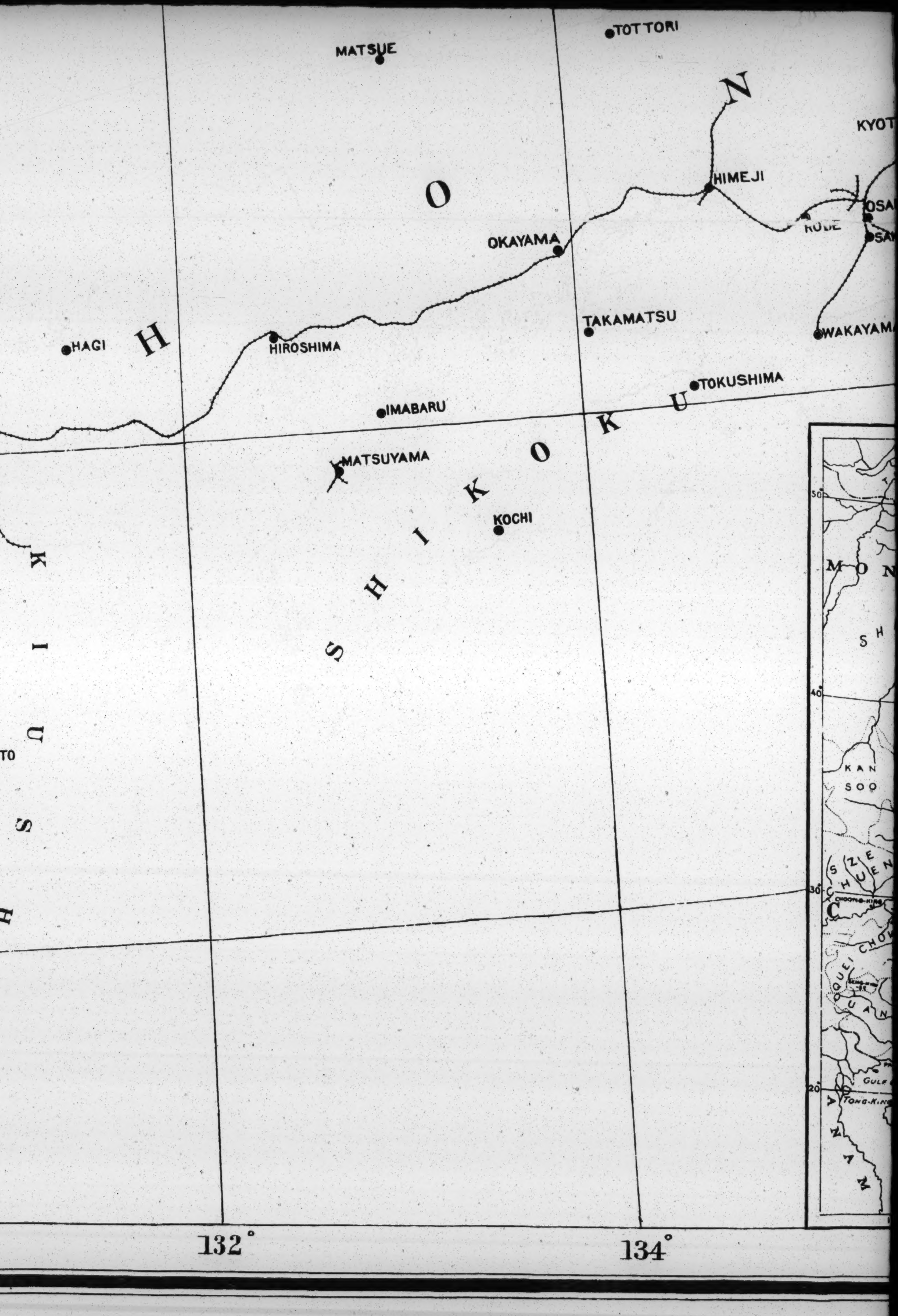
CHUNJU
TAIKOO
KWANGJU
Kimje
Kumyu
Taiin
Imsil
Chengup
Changsong
Sunchhang
Namwon
Unpong
Changsu
Hamyang
Sangirichang
Minsandyi
Samk
Chinju
Kamam
Tanseng
Anso
Kiure
Hoksong
Tonpok
Pokhion
Nungju
Nakan
Sunchhen
Posong
Tuwen
Hongyong
Pulkai
Thaikeng
Konyang
Hatong
Siosendo
Kwangyang
Chinhai
Kosong
Numchheng
Chongnyang
Namhai
Namhaido
Hansando (Observatory I.)
Chidok
Chisepho
Koje
Kojedo
Fusan
Keumnyangdo
Adziro
Owura
Minato
Saka
Tsushima
Kasa
Tsushima Sound
Idzuhara
Medaka
Auckland I.
Kaksokdo (Tracy I.)
Herschel I.
Seen I.
Pollado (Hooper I.)
Ulyongdo (Douglas I.)
Goalen I.
Surakdo
Brook I.
Soeumdo
Udo (Montressor I.)
Isando
Nanhow Grp
Kujukdo
Pinnacle I.
Komundo
Ando (Castle I.)
Port Hamilton
Tainang (Montravel)
Udo
Kochongwi
C. Dundas
Chongwi (Hisenhui)
Dougall Pt
(Sarrow I.)
CABLES TO VLADIVOSTOK
CABLES TO SHANGHAI
AKAMAGASEKI
FUKUOKA
KURUME
SAGA
NAGASAKI
KUMAMOTO
KAGOSHIMA
S
H
U
Desert of Gobi.
East from Greenwich 128°
130°

XUM


TOTTORI
MATSUE
N
KYOT
HIMEJI
O
OSA
KOBE
SA
OKAYAMA
TAKAMATSU
WAKAYAMA
HAGI
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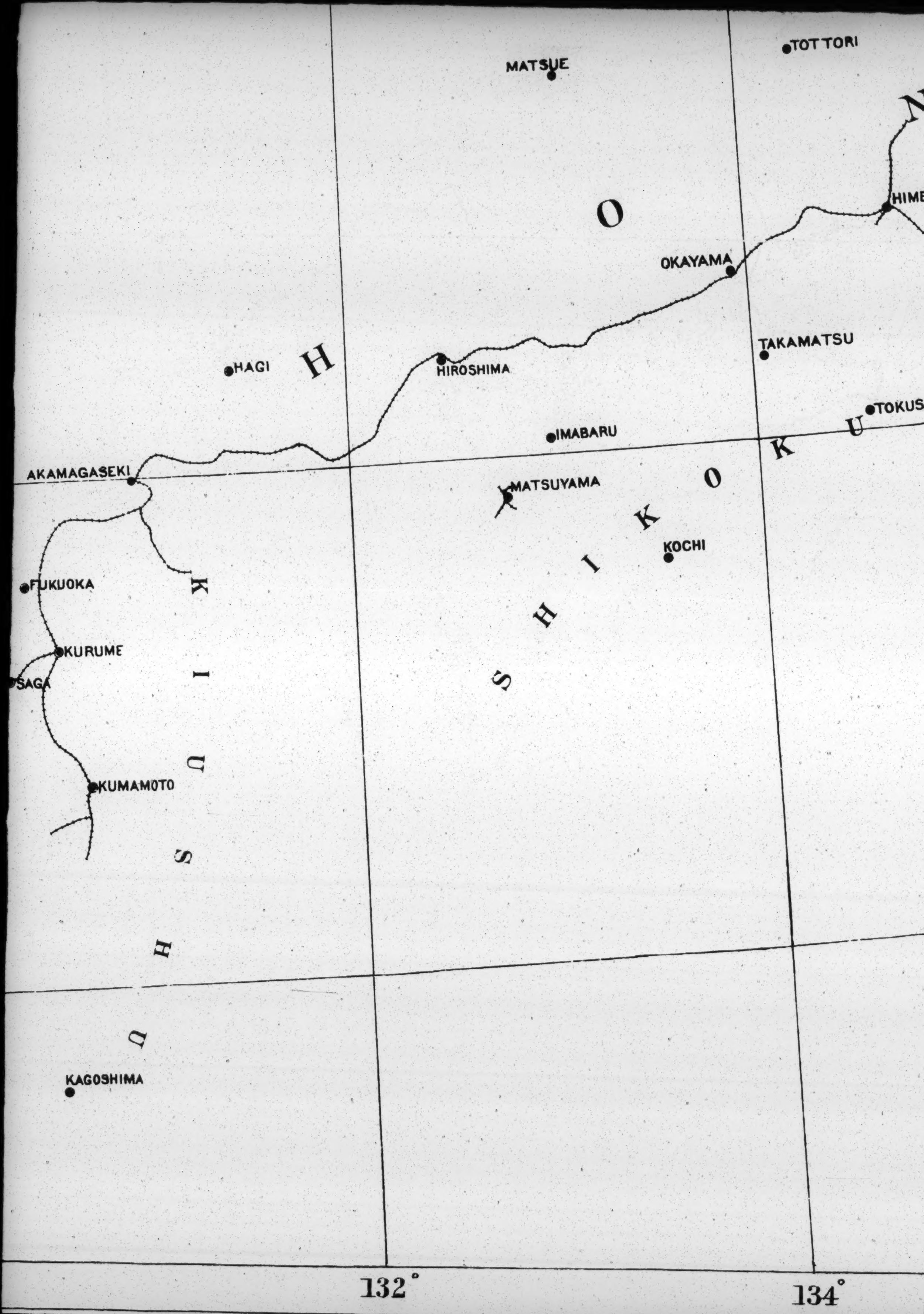
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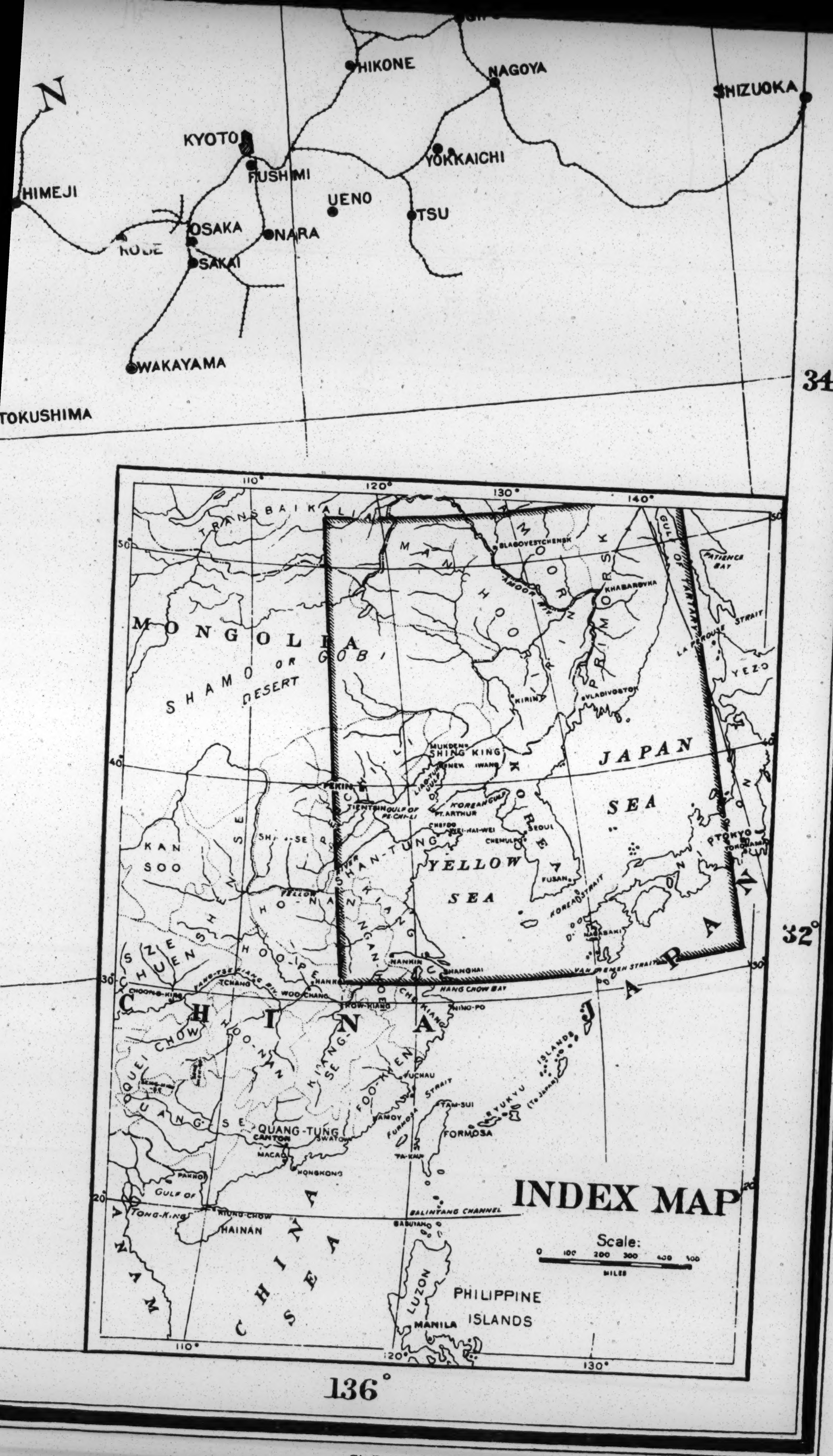
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INDEX MAP
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KOREAN GULF
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SEOUL
KOREA
TOKYO
YOKOHAMA
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FUSAN
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CHE-KIANG
CHINA
JAPAN
HOO-NAN
KIANG-SE
QUEI CHOW
FOO-KIEN
FUCHAU
LIU KIU ISLANDS (To Japan)
RYUKYU ISLANDS
QUANG-SE
QUANG-TUNG
CANTON
SWATOW
AMOY
FORMOSA STRAIT
TAM-SUI
FORMOSA
TA-KAU
MACAO
HONGKONG
PAKHOI
GULF OF TONG-KING
KIUNG-CHOW
HAINAN
ANNAM
CHINA SEA
BALINTANG CHANNEL
BABUYANO
LUZON
MANILA
PHILIPPINE ISLANDS
110°
120°
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140°
50°
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30°
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THE PHILIPPINE ISLANDS AND THEIR PEOPLE

BY HENRY GANNETT,

CHIEF GEOGRAPHER, U. S. GEOLOGICAL SURVEY, AND ASSISTANT DIRECTOR OF THE PHILIPPINE CENSUS

THE Philippine Islands are on the other side of the earth, 10,000 miles away. Lying near the equator, between 5° and 21° north latitude, the sun passes over them in April and May on its way north, and in July and August on the return journey, while in June the shadows are short and point to the south. It is always summer, always warm, and a minimum of clothing is constantly the fashion. The trade wind blows steadily from the northeast from November to May, and the monsoon from the southwest from June to October.

The islands are numbered by thousands, but no one knows how many there are, for the known number is constantly increasing as more accurate surveys of the coast are made. They range in size from Luzon, the largest and most populous, 41,000 square miles in area, and Mindanao nearly as large, down to the myriads of little rocks just above the water at high tide. The islands of Mindoro, Samar, Leyte, Bohol, Cebu, Negros, Panay, Paragua, and Masbate exceed 1,000 square miles in area each, and there are thirty-one which exceed 100 square miles each.

The shores of these islands are fringed with coral reefs which rise abruptly and irregularly from the depths of the sea, making navigation extremely difficult and dangerous. The charts prepared in Spanish times mainly by Spanish authorities are, as a rule, incorrect and often very misleading, so that it is necessary for shipmasters to use the utmost caution in approaching the coast or entering harbors. Our Coast Survey has been at work for the past three years, but although working as rapidly as possible, consistent with accuracy, it has as yet charted but few of the harbors. The magnitude of the work may be appreciated when it is understood that the coast of the Philippine Islands is much greater in extent than the entire coast of the main body of the United States, excluding Alaska, and that the coasts are much more intricate than our

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own. At present no shipmaster thinks of entering a Philippine harbor, unless it be one with which he has familiarized himself, without carefully feeling his way by sounding.

Throughout northern and central Luzon runs a range of mountains parallel to the Pacific coast and closely bordering it, known as Sierra Madre. This range rises to heights of 4,000 to 5,000 feet, the highest portion being in the north. West of this is the broad valley of Cagayan River, one of the largest streams of the island, which flows northward, entering the sea at Aparri. This valley is the principal tobacco region of the Philippines, and is fairly well settled with about 200,000 people. For two-thirds of its length the river is navigable for small boats, which carry the products to Aparri.

West of this valley is a mountain system called Caraballos Occidentalis. This system consists of a main range with many subordinate spurs and branch ranges, on the east separating branches of the Cagayan River, and on the west running down to the coast, separating from one another the streams which flow directly into China Sea. Many peaks of this range exceed 6,000 feet in height, and a few are more than 7,000 feet. The spurs from this range come down closely to the coast, leaving only a narrow strip of cultivable land along the shore.

West of the Sierra Madre, in central Luzon, is a great depression or valley extending from Lingayan Gulf southward through Manila Bay and the Laguna de Bay to the highlands, separating Cavite province from Batangas. This valley has a length of nearly 150 miles, with an average breadth of at least 40 miles. Its floor is nearly level and throughout a large part of the area is raised but little above sea level. Much of it, especially near Manila Bay and Lingayan Gulf, consists of low alluvial lands but a few feet above tide, intersected by numerous bayous or estuaries. These regions are in fact delta plains formed by the Pampanga and Agno rivers. Manila Bay is a part of this depression, as is also the shallow Laguna de Bay, which nowhere has a depth exceeding 20 feet. Indeed, the Laguna de Bay is so shallow that at low water the steam launches which traverse it stir up the mud from its bottom almost constantly with their screws. This lake is drained by the River Pasig to Manila Bay.

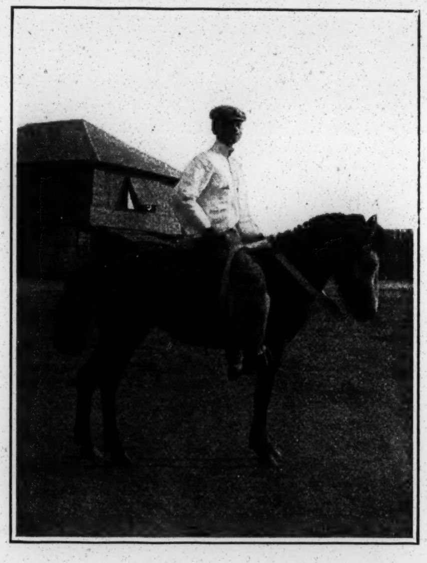


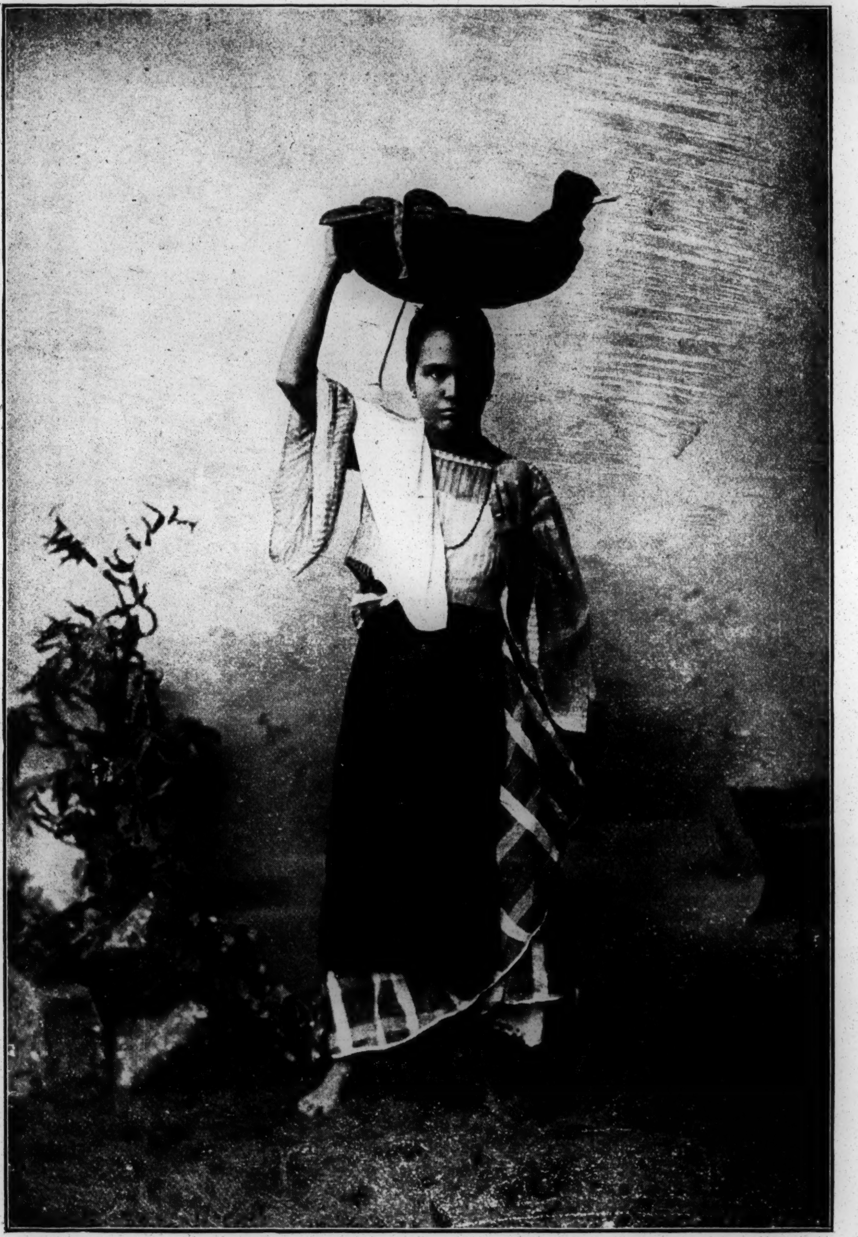
Photo by Gannett

An Ilocano Boy on One of the Small and Wiry Filipino Ponies

This great valley is the most densely settled part of the Philippines, containing nearly one-fourth of the civilized people of the islands.

West of this valley rises the Zambales Range, which, with the Mariveles peaks at the southern end, forms the backbone of the Zambalan Peninsula.

South of this great valley of central Luzon, in Batangas Province, is Lake Taal, which occupies the crater of an enormous extinct volcano, whose rim



TAGÁLOG GIRL SELLING MANGOES IN MANILA, LUZÓN.

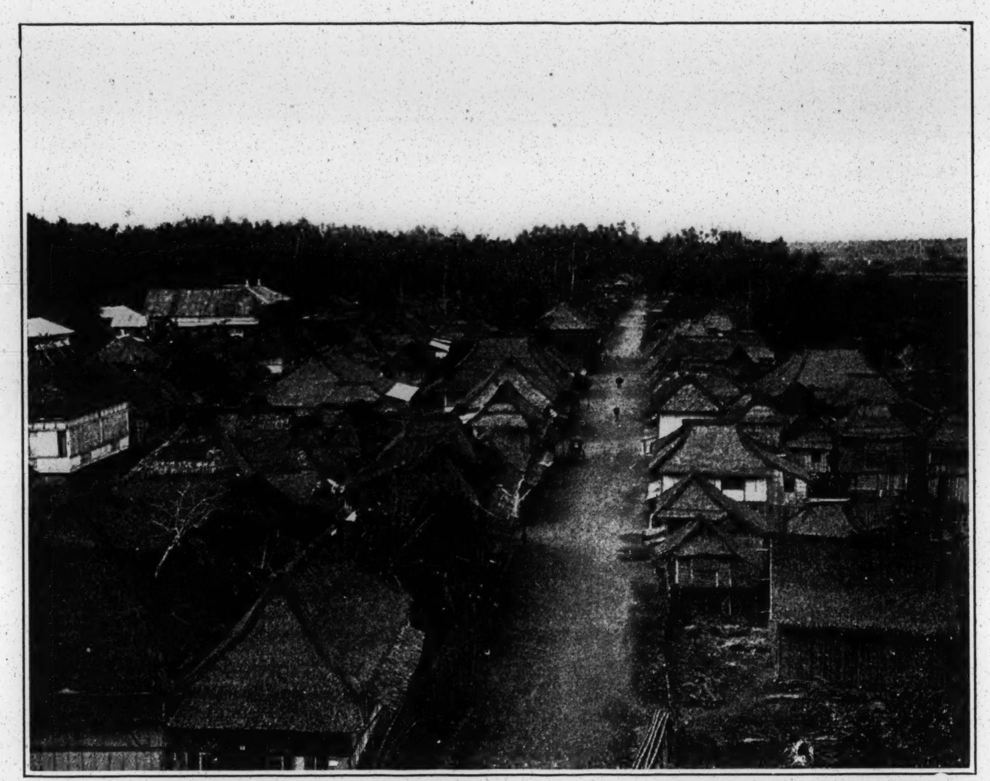


Photo by Gannett

Boac, from the Walled Church

is strongly marked on all sides except on the southwest, where a small stream breaks through and drains the lake into China Sea. An active volcano rises as an island from the middle of the lake to the height of a thousand feet.

In the southern part of central Luzon are numerous volcanoes, most of them extinct. Southeastern Luzon has a very irregular outline and contains a number of short ranges and mountains of no great height. The greater elevations of this part of the island consist of active or extinct volcanoes. Of the former the most notable is the beautiful and symmetrical cone of Mayon, which rises from the shores of Albay Gulf to the height of 8,000 feet. This has been in eruption several times within the historic period and has done great damage to native towns and villages situated about its base. Another fine volcano, not now active, is Mount Isarog, which rises over 6,000 feet above the town of Nueva Caceras.

The island of Mindoro is little known except along the coast, as settlement has not penetrated the interior and few explorers have been far inland. It was crossed last spring at its widest part by Captain Offley, the governor of the province. The main topographic feature of the island is a range of mountains running from the northwest corner southeastward and then southward to the southern point, with broad spurs

Photo by Gannett

Igorrote Packers on the Road to Benguet

extending to the coast on either side. Its highest summit, Mount Halcon, has an altitude exceeding 8,000 feet.

The surface of Samar, the most eastern of the Visayan Islands, is exceedingly broken, but nowhere rises to a great elevation. Probably no summit of more than 2,000 feet in height is to be found on the island. The island of Leyte has a central range extending the length of the island from north to south, with a few summits exceeding 3,000 feet. Bohol, also of the Visayan group, is nowhere high, although most of the island is hilly. Cebu is characterized by a continuous range running from the northern to the southern end of the island, the greatest elevation, on the broadest part of the island, not exceeding 2,300 feet. The Island of Negros has a range running throughout its length, but without great elevation, excepting in the volcano Canlaon or Malaspina, which is said to have an altitude of more than 8,000 feet. Panay, the last of the large islands of the Visayan group, is dominated by a range of mountains extending from the northwest to the southwest point of the island, not far from the coast. This range, which furnishes the east boundary of the Province of Antique, has many summits exceeding 6,000 feet. From a point near the middle of this range there extends a subordinate range, which, running east and northeast, separates the provinces of Capiz and Iloilo.

TIRURAY DANCERS.

Photo by Gannett

Outskirts of Cotabato

The long, narrow island of Paragua has a mountain range extending its length from northeast to southwest, with peaks ranging from five to six thousand feet in altitude.

Of the great island of Mindanao most of the information we have comes from the explorations of the Jesuit fathers, who, in Spanish days, traversed it widely. It is known that along the Pacific coast of this island extends a range quite continuously from Bilan Point southward to Point San Agustin. West of this lies the broad valley of the Agusan River, peopled by a few Christians and many wild people. On the west side of this valley rises a succession of ranges trending nearly north and south, extending, with some breaks, down the west side to the Gulf of Davao, and separating it from the broad, fertile valley of the Cotabato River. This river heads north of the center of the island and flows, first, nearly south into a number of shallow lakes. These lakes outflow to the northwestward by a great river, still known as the Cotabato, which has built up a delta on the shores of Celebes Sea. Another range, trending northwest and southeast, separates this valley from the coast. In the interior of the island is a curious lake, Lanao. It has a length of twenty miles nearly north and south and an average breadth of ten or twelve miles. Its outlet is northwest to Iligan Bay. Its surface lies at an altitude above the sea of 2,200 feet, and the land rises abruptly from it on all sides to several hundred feet, that on the south being 800 feet above the surface of the water. Around this lake are grouped in villages 75,000 Moros, the largest and probably the densest settlement of these people in the archipelago. From this lake there runs, first westward and then southwestward, down the peninsula of Zamboanga a range of mountains which terminates above the town of Zamboanga at the end of the peninsula.

These in brief are the leading topographic features of the larger islands. Summarizing, it may be said that the islands are almost everywhere mountainous and densely clothed in tropical vegetation. They are probably as beautiful islands as exist upon the globe, and their possibilities under civilization and careful and intelligent cultivation are almost infinite.

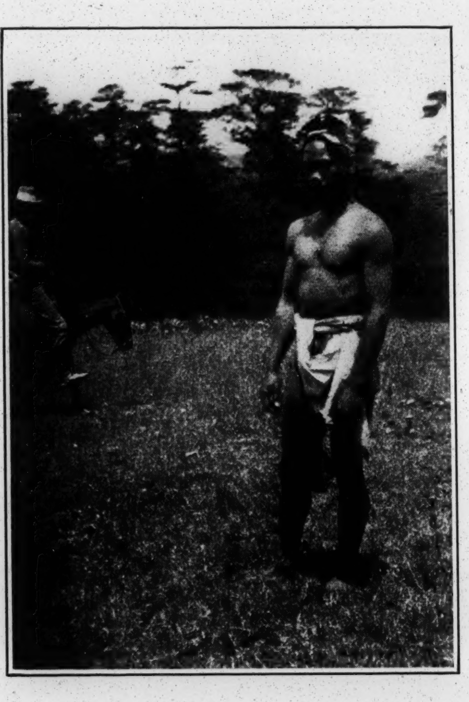


Photo by Gannett

An Igorrote

THE CLIMATE

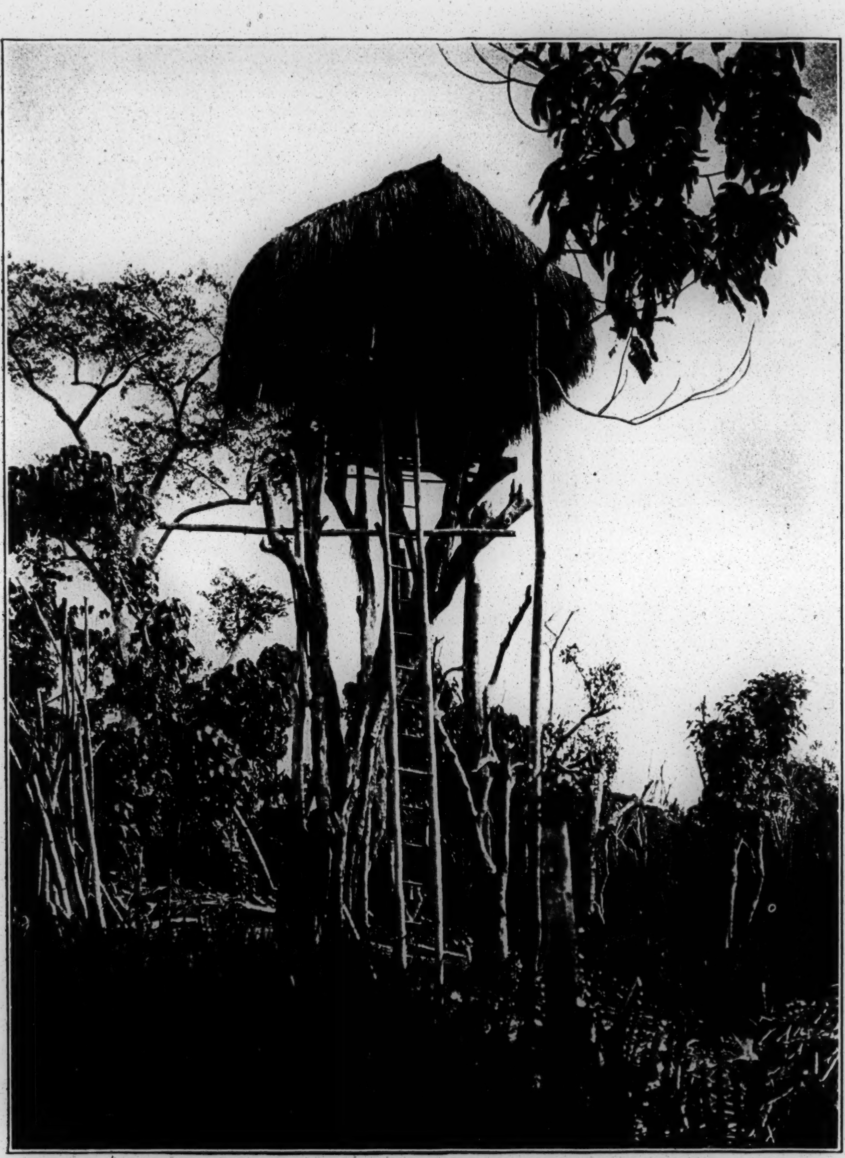
The temperature in the archipelago is at all times high, the mean annual temperature being throughout not far from 80° F., but, at least in the coast regions, is never excessive and is without any great variation during the year or during the day. It rises a few degrees only above the mean of the year in the spring and early summer months, and falls a few degrees lower than that average in the winter months. The annual succession of the temperature is pretty well shown by the thermometric record at Manila, where there is a range in the monthly mean temperatures of the year of only 7°—*i. e.*, from 77° in January to 84° in May. There is no extreme of heat. Temperatures of 100° are almost unknown, having occurred only twice in sixteen years, but for months the maximum temperature of the day may be above 90°. The lowest temperature on record is 60°, showing an extreme range in sixteen years of but 40°.

Now, to show what these figures mean, compare them with similar figures for the city of Washington. The highest temperature on record there is 104°, which is 4° above the highest in Manila. The lowest temperature ever suffered in Washington is —14°, not less than 74° lower than the lowest at Manila. The extreme range of temperature in Washington is 118° and in Manila 40°. The range of monthly mean temperatures in Washington is 46°—*i. e.*, the mean temperature of July is 46° higher than that of January, while in Manila the monthly mean range is only 7°.

There is no part of the year when clothing need be worn for protection against cold. White cotton suits are at all times in season, for the temperature is always above the perspiration point.

The diurnal range of temperature at points near the seacoast is slight, rarely exceeding 15°, while the average for the year is only 11°. The uniformity of temperature in the archipelago is, of course, due to its insular character, giving it a sea climate.

The relative humidity of the atmosphere is everywhere and at all times great, being commonly at least 75 per



TREE HOUSE OF THE GADDANES, NEAR ILAGAN, ISABELA, LUZÓN.

cent, while at certain seasons the air is practically saturated with moisture much of the time.

THE WINDS AND TYPHOONS

The wind system of the archipelago is simple. From November to June the trade wind blows continuously from easterly quarters. With the beginning of July the southwest monsoon begins and blows continuously until October, except as it may be interrupted by those storms known as typhoons, or, in the Tagalog language, "baguios." The monsoon is simply an annual land and sea breeze, produced by the change in the relative temperatures of the ocean and the land. In the winter, the sea being the warmer, the wind blows from the land, and thus here coincides with and reinforces the northeast trades. In the summer the land is hotter and the wind, setting toward it, forms the southwest monsoon.

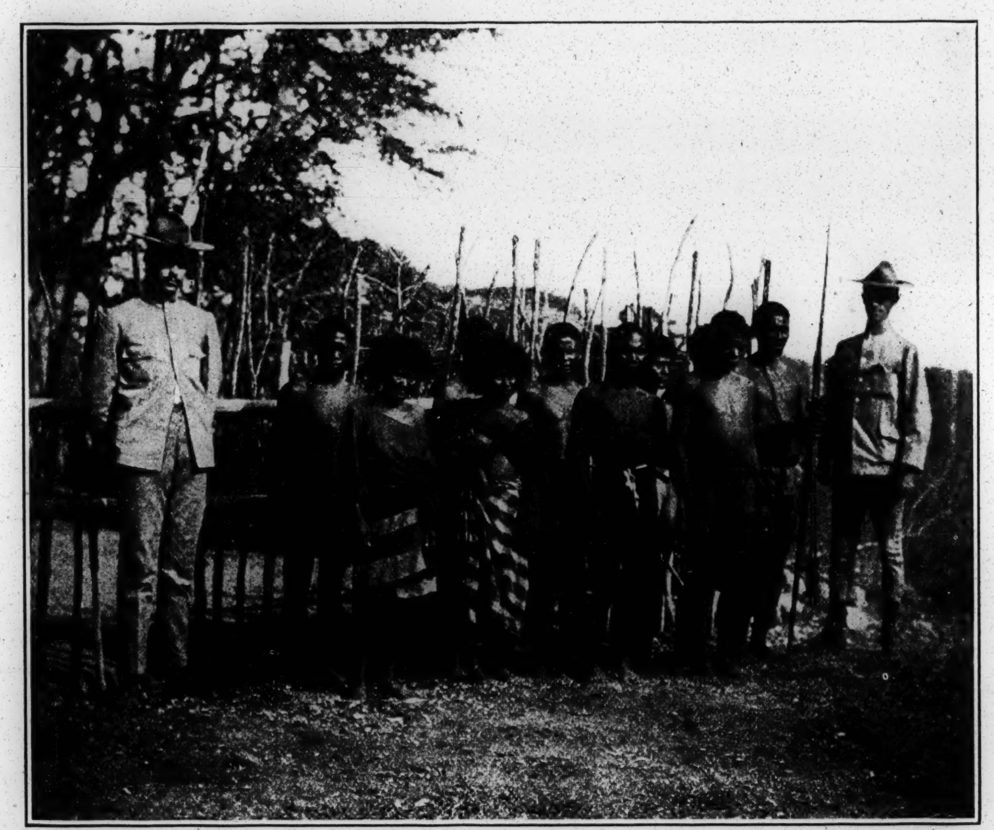


Photo by Gannett

A Group of Pigmy Negritos with Two Americans of Average Size

Typhoons are whirling storms which commonly originate in the Pacific, east of the Philippines, and take a westward course, turning north and finally northeast and passing off into the north Pacific. Most of them cross the Philippines on their westward course and turn north in the China Sea.

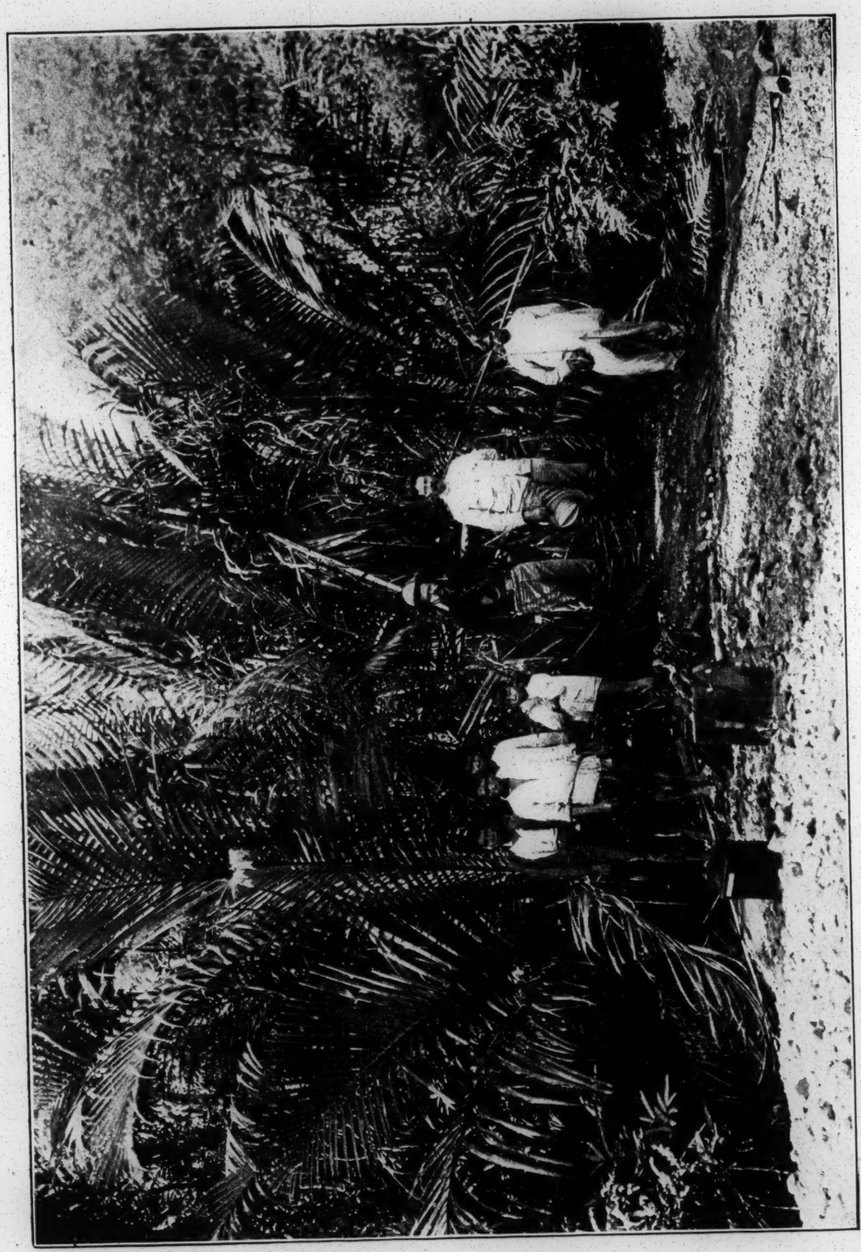
Their origin is probably in the region where the trade wind, blowing constantly from the eastward, meets the southwest monsoon. It may be by conflict between these two opposing air currents in this region that the whirl is set up. At first this whirl travels in the course of the trades, as they are the dominant wind, but as it goes westward the influence of the monsoon becomes relatively the stronger, and the typhoon yields to it and passes off in its direction to the northeast. Hence the monsoon season is the season of typhoons.

Typhoons resemble in course, character, and violence the so-called West India hurricanes. They are of frequent occurrence, often following one another closely, at intervals of but a few days, and many of them have been very violent and destructive.

The rainfall of the archipelago closely follows the winds. The general *modus operandi* of rain-making is very simple and scarcely needs repetition here. Air coming off the sea is always and everywhere practically saturated with moisture. On reaching the land, if the latter is colder than the sea, and therefore colder than the air currents, which have the temperature of the sea, it is chilled, and hence, unable to hold in solution so

Photo by Gannett

Nipa House Under Construction



NIPA PALM, FROM WHICH ROOFS AND SIDES OF HOUSES ARE MADE, CULION ISLAND.

much moisture, deposits a part of it as rain. This is especially the case if these air currents are forced up over mountain ranges, since in rising they are necessarily chilled.

The Philippine Islands are mountainous, and such air currents coming to them from any direction are forced upward to pass over the mountains into cooler regions. Hence there is a heavy precipitation on the windward side of the islands, while the leeward side, being under descending air currents already partly deprived of their moisture, receive little or no rain. The alternating winds of the Philippines, the trades and the monsoons, thus produce alternating wet and dry seasons.

On the east coasts of Luzon, Samar, and Mindanao, which face the Pacific, the winter and spring, when the trades prevail, is the rainy season. In most other parts of the archipelago it is the dry season. On the other hand, in the monsoon season, when the wind is from the southwest, the other, the westward-facing coasts, have a wet season, while the Pacific coasts are comparatively dry, or, at least, get much less rain. Thus at Manila there is practically no rain from November to June, while during the rest of the year the rainfall is heavy. There are places in southern Luzon and Samar where, owing to the fact that the islands are low, the air currents pass over them without losing much of their moisture, and hence carry it westward to be deposited elsewhere. Thus at localities in the Visayan Islands, west of these eastern coasts, the rainfall is abundant even in the winter season.

The total amount of rainfall ranges in different parts of the archipelago from 40 to more than 100 inches, the precipitation being greatest on the Pacific coast. At Manila it is about 60 inches, somewhat more than in the city of Washington, and of this four-fifths fall in the rainy season, between the first of July and the end of October. In these months rain falls nearly every day. The streets are flooded, the air is saturated with moisture, and things are covered with mould.

THE PEOPLE

All the larger islands are populated more or less fully, and mainly by little brown people of the Malay race. The only people not of Malay origin are the Chinese, Japanese, Americans, and Europeans, and the Negritos, the original inhabitants, who are found in small numbers in the mountains of the interior of Luzon and two or three other islands.

These brown people, both civilized and uncivilized, are separated into many tribes, and they are of all grades and degrees of civilization, ranging from cultivated gentlemen educated in the universities of Europe, to the wildest of head-hunters and the most timid of tree-dwellers. Among them, found almost entirely in the cities and mainly in Manila, are some three score thousand Chinese, and a small sprinkling of Japanese and East Indians. The Chinese carry on most of the business and do most of the hard manual labor of the cities. The ruling element of the whole consists of a small nucleus of some ten or twelve thousand Americans.

A classification of the natives by tribes is a rough index to the degree of civilization. The Tagalogs, occupying, in the main, central Luzon, are the most powerful and highly civilized; the Ilocanos in northwestern Luzon, the Bicols in the southern part of the same island, and the Visayans in the central islands of Samar, Leyte, Cebu, Bohol, and Panay, follow them closely in intelligence and civilization, as do also the smaller tribes of Pangasinan, Pampanga, Cagayan, and Zambales, in Luzon. These are the eight civilized tribes. Of these, the Visayans are far the most numerous, numbering over 3,000,000 and forming 45 per cent of all. Next are the Tagalogs, who number 1,600,000, or 24 per cent, or nearly one-fourth. The Bicols form 8 per cent, the Ilocanos and Pangasinans 7 per cent each, the Pampangans 4 per cent, the Cagayanes 3 per cent, and the Zambalans only 1 per cent. These tribes live, in the main, on or near the coast or on navigable rivers. While not exactly a seafaring people, they spend much time upon the water, and a large proportion are fishermen. They travel mainly by boat, and the river transportation, by means of cascoes or large native cargo boats, is in their hands.

With the exception of the Moros, the wild tribes have been crowded back from the coast into the interior by the more civilized peoples, and are now found mainly in the mountains. The Moros occupy the coasts of southern Mindanao, and similarly have driven the wilder peoples into the interior of that great island. The Moros occupy also the whole of the Basilan, Jolo, Tapul, and Tawi-Tawi groups of islands.

Of the wild tribes the Igorrotes of the mountains of Luzon and the Moros of the southern islands are the largest and most powerful. Besides these, there are many smaller tribes, especially in Mindanao, who are even wilder. The lowest of all the people of the islands are the Negritos, who, though widely scattered over the archipelago, are found mainly in the mountains of northern Luzon, and number only 25,000. Of all these wild tribes, the Igorrotes are probably the most promising. Physically they are strong, sturdy mountaineers, and are bright, honest, and industrious. While many of them are still hunting heads in inter-village feuds in the remote region known as Bontoc, others are earning their livelihood as packers, miners, and farmers. All the baggage, furniture, and supplies of all kinds for the infantile mountain capital in Benguet province are packed on the backs of Igorrotes a distance of 25 miles and to an altitude of 5,000 feet. They number probably about 175,000.

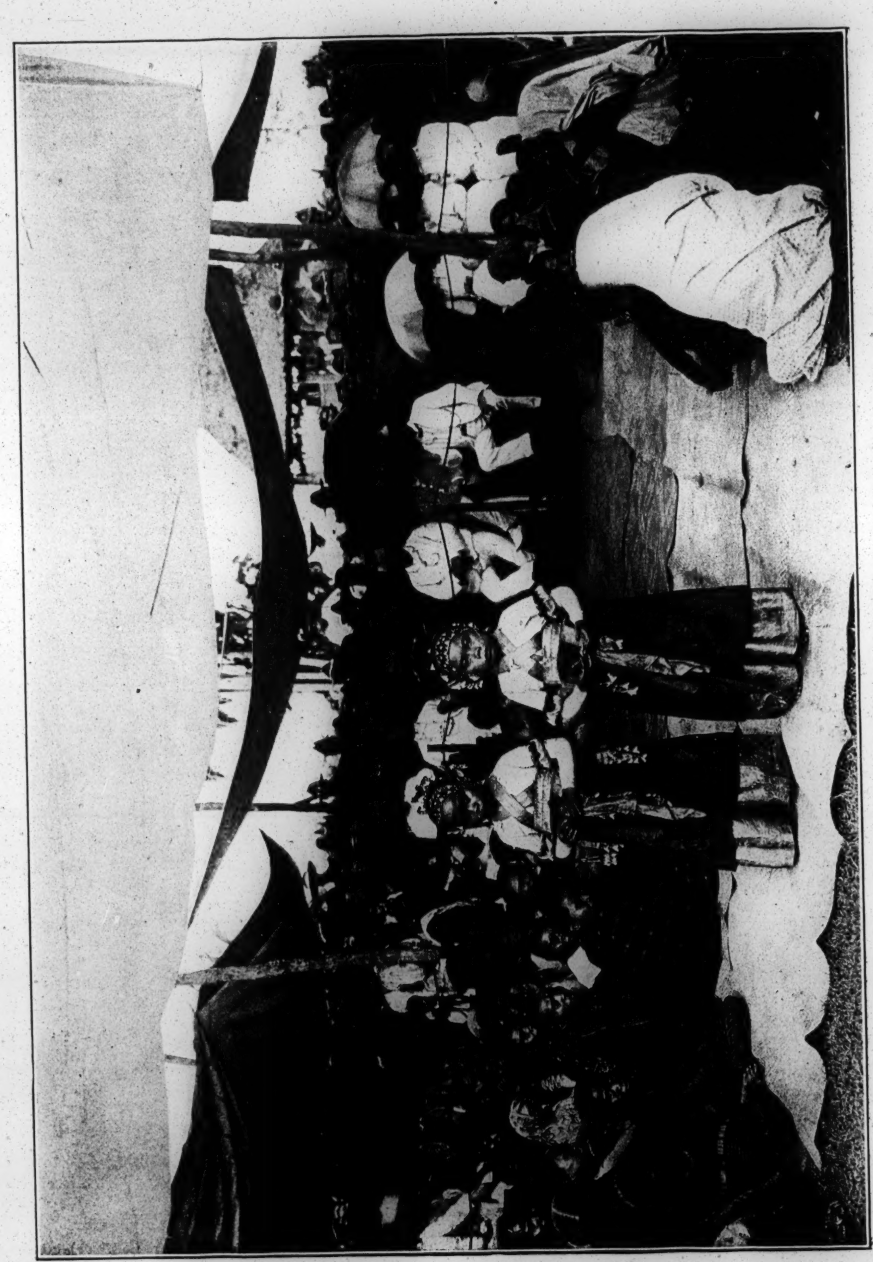
The Moros are a very different people. They number about 275,000 and inhabit southern Mindanao and the Basilan, Jolo, Tapul, and Tawi-Tawi Island groups southwest of Mindanao. They are nominally Mohammedans, though their religion is not such as to interfere with their chosen modes of life. They were the Malay pirates of whom we read, who were the scourge of the Philippine coasts, raiding the towns, killing the men, and carrying off the women and children. Fierce and fearless in war, the Spaniards made little headway against them, and when Spain turned over the islands to us she left a prospective lot of trouble for us in this people; but by wisdom, patience, and a little sharp fighting we have established our supremacy, and there is peace in Moro land.

Each tribe has its own language, and even different parts of the same tribe may speak dialects which differ greatly from one another. Thus the Visayans of Cebu cannot easily communicate with the Visayans of Leyte or Samar; hence there is great confusion of tongues. Only a small proportion of the Filipino people use the Spanish language; indeed, less than 10 per cent. There are thousands of villages in which no one can be found who speaks Spanish. The Spanish spoken by the common people is by no means pure Castilian, but is commonly known in the islands as Caribao Spanish. English is taught in all the schools, and the younger generation is making rapid progress in it. Everywhere the Filipino shows a desire to learn the language and a great pride in the progress made.

This people numbers 7,600,000, scattered over 115,000 square miles, in 14,000 cities and villages. There are very few rural inhabitants. The people are gregarious, probably 99 out of every 100 living in cities or villages,

Carabao in Their Native Element

Photo by Gannett



MORO DANCING GIRLS.

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around which are scattered their plots of cultivated ground. Such a scattered distribution of the farming population as is seen in the United States is almost unknown in these islands.

GOVERNMENT

The islands are organized into forty civil provinces, the city of Manila, and the semi-military, semi-civil province of Mindanao—forty-two in all. The civil provinces are divided into nearly one thousand pueblos, which resemble in certain ways our New England towns. These are in turn subdivided into nearly fourteen thousand barrios or villages.

The chief executive officer is the civil governor, who is aided by four Americans, who serve as executive heads of departments, with the title of secretary. These five, with three Filipinos, form the civil commission, which is the legislative body. Within these four departments are numerous bureaus, which, with two exceptions, have Americans at their heads. The judiciary is mainly composed of Americans, but contains several able Filipino judges.

The officers of the provinces are governors, most of whom are Filipinos, and treasurers and supervisors, all of whom are Americans, and secretaries, all of whom are Filipinos. The governor, treasurer, and supervisor of each province form the governing board, which decides all matters of importance concerning the province. The chief officers of the pueblos are the presidentes, all of whom are Filipinos. The presidentes of the pueblos and the governors of provinces are elected by the qualified voters. The civil governor has the right to suspend or remove any officer, whether elected or appointed, and to fill the vacancy thus created.

Throughout, in the general government, provincial government, and pueblo government, the minor offices and the clerical positions are in the main filled by Filipinos, who make excellent clerks.

The city of Manila is governed by a commission appointed by the civil governor, much as the District of Columbia is governed.

INDUSTRIES

Farming is carried on extensively, but by primitive methods and with primitive tools. The plows and harrows are of wood and are drawn by carabao .

The agricultural products are very numerous, but most of them are of little importance. The chief products are tobacco, which is grown mainly in northern Luzon, and especially in the valley of Cagayan River, in the northeastern part of that island; abaca, or Philippine hemp, a species of banana palm, grown in southern Luzon, the Visayan Islands, and northern Mindanao, or wherever the rain is well distributed throughout the year; sugar, produced in various parts of the islands, but principally on Negros and Panay; rice, raised everywhere, but not in sufficient quantity to supply the people ; cocoanuts, which are found everywhere near the coast ; cacao and coffee. Besides these, bananas and mangoes are produced in abundance and are excellent; oranges and lemons are very few, and these few are wretched travesties of the California fruit. Indeed, it seems strange that, with a soil and climate that will produce almost everything, vegetables and fruits are so few and so poor. Fortunes await American market gardeners in the suburbs of Manila.

In most parts of the islands the lands are subdivided to an enormous extent, and the cultivated tracts are very small. A few thousand square feet, the area of an ordinary city house lot, are sufficient to provide the Tao and his family with all that they require—a few bananas, a little rice, and camotes or sweet potatoes. Their wants are limited and easily supplied. Furthermore, nearly everybody owns his place, or at least claims to own it. There are, however, many people holding land as squatters.

The Filipinos are great fishermen, and most of their flesh diet consists of fish. For their capture they use both traps and nets.

The manufactures of the islands are mainly carried on by hand in the homes of the people. Thus are made on hand looms by the women the beautiful and delicate fabrics known as Sinamay, Jusi, and Pina. Thus are made the beautiful hats which one day may become as fashionable and highly prized as the well-known Panama hat. Most of the lumber is sawn by hand with whipsaws.

In Manila, however, are some large factories, especially of cigars. There are also several lumber mills, a brewery, and numerous other establishments.

MEANS OF TRAVEL

The transportation of the islands is mainly by steamers on the sea, coastwise, and by cascoes along the numerous short rivers and bayous. The traffic down the Pasig from the Laguna de Bay, that great lake in the interior of Luzon, surrounded by populous towns, is very great and is carried on these cargo boats. These are homes as well as cargo-carriers, for the boatmen live on them with their families. On the boats of all kinds in and about Manila about 16,000 people live constantly.

Travel among the islands is mostly by sea. There are several lines of native boats which carry passengers and freight between Manila and the provinces, and the civil government possesses a number of boats known as coast-guard boats, which it uses for transportation of mail and passengers and its own freight. These coast-guard boats are very comfortable, although their accommodations are limited. The native boats are, however, extremely disagreeable for white people, and are to be avoided if possible.

Travel in the interior is much more difficult. The only railroad in the islands runs northward from Manila to Dagupan, a distance of 120 miles. It is a narrow-gauge road, owned by an English company, and is run at the dizzying rate of 15 miles an hour for express trains, and all its appointments are in proportion. The native travel on this road is enormous and the freight movement is large.

A few good roads were built in the islands under Spanish régime, the longest of which runs from Dagupan northward along the coast to the north end of Luzon. Most of the bridges on this road are temporary affairs, built of bamboo, which go out with each wet season, and many of them have not in recent years been replaced. The road also, which originally was well constructed of macadam, is now badly washed in places. This is probably a sample of the condition of the best roads in the islands. Aside from a few such roads, the ways consist mostly of trails impassable to wheeled vehicles.

For passenger travel the common animal is the Filipino pony, which is a little larger than a Shetland pony, is rather stockily built, but well shaped and hardy, tough, free, and fast. They are used both for riding and driving and make excellent saddle animals.

The draft animal is the carabao, or water buffalo, much like an ox, with slow, ponderous movements, dark dun, almost black in color, the hide lightly covered with hair, and generally equipped with large, heavy horns. This animal is used not only in the country in all farming operations, but largely in the city for draft purposes. The weakness of the animal is his constitutional inability to go long without a bath, and when left to himself he is almost amphibious, spending a large part of his time in water. A few hours' work in the sun without a bath is often fatal. The carabao is a Filipino animal in the sense that it recognizes only the Filipino as its master. It distinguishes a white man by his odor, and in many cases is excited by his presence. If at

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all viciously inclined, he is dangerous of approach, and instances have been known of his attacking and killing white men. He is to the Filipino what the mule is to the plantation negro. They understand one another and get on together excellently.

HOTELS AND HOUSES

The Philippine Islands are practically without hotels or any other public stopping place for travelers. True, there are hotels in Manila and in two or three provincial capitals, but elsewhere the traveler is obliged to throw himself upon the hospitality of the provincial officers, the presidente of a pueblo or the teniente of a barrio. If he hesitates to do this, he can quarter himself upon the constabulary, if there is a constabulary post, where he may find a cot upon which to spread his blankets, and probably will get a meal.

The houses of the Filipinos differ with their social condition and with the different tribes and in different parts of the islands, but they may be generally classified as those built of nipa, or its equivalent, and those of more durable material, such as wood, brick, or stone.

All the Filipino houses, wherever they are and whatever the material, are raised above the ground, generally to the height of a full story. The space beneath is commonly utilized as a stable for ponies or for a chicken house. The more durable houses are built of stone, brick, or wood, and are large and roomy, with plenty of window space. They are commonly entered from beneath by a broad, winding staircase, which lands the visitor in the middle of a large hall running the full length of the house. This hall is 20 feet or more in width and lighted by windows at the ends. One end of it is commonly the dining-room and the other the sitting-room, while on either side of it, and communicating with it by doors, are the bedrooms. The furniture is scanty and simple, consisting generally of a round table and easy, cane-seat chairs. The walls are double, the spaces between them forming galleries four or five feet in width, these galleries being entered through broad openings commonly curtained. In the outer wall are windows and blinds running independently of one another in grooves. The windows are very commonly glazed in small panes, three or four inches square, of shell instead of glass, which are sufficient to admit light, but nothing can be seen through them. At night everything is shut tight, windows and blinds, either from fear of night air or of spirits, which stalk abroad after sunset. The floors of these houses are generally made of the native hardwoods, are often very beautiful, and are a great source of pride to the possessor, who keeps them well oiled and waxed.

The roofs of this class of houses are of tiles, tin, or, among the poorer ones, of thatch, nipa, or cogan grass.

The houses classed as nipa are made of several different kinds of material, but in the main of bamboo and nipa palm. The frame, which is commonly very simple, is built of bamboo poles; the walls are made of a coarse mat woven of nipa, while the roof is thatched with the same material, nipa being a palm which is found abundantly in swampy places. Sometimes the sides, as well as the roof, are thatched with nipa instead of being made with this coarse mat. Where nipa can not be had, cogan, a coarse grass, is often used. The windows are mere openings, closed by shutters of nipa mat or of thatch. The floors are open work, made of strips of small bamboo tied down to the floor beams. Probably nine-tenths of the houses in the islands are of nipa, or some equivalent plant, built upon much the same plan as above. The erection of a nipa house is a very simple matter, requiring only a few days' labor and costing only one or two hundred dollars.

Some months ago a square half mile of the Tondo district of Manila, consisting almost entirely of nipa huts, was burned. A month later most of them were restored. The nipa house is entered, not by a stairway, but by a ladder from the outside. The rooms are commonly small and the people live very closely. The houses are, of course, only one story in height. Indeed, throughout the islands the buildings, as a rule, are low, most of the residences containing only one story, while business buildings rarely rise to more than three.

FOOD AND DRINK

In the Philippine Islands no white man drinks raw water—that is, unless he courts cholera or dysentery. Whenever possible he boils it or distills it, preferably the latter. In Manila is a large distilling plant, carried on by the government for the use of its civil employés. The natives are by no means as careful, and most of them drink the water as nature provides it and attempt to avert cholera by prayers and charms.

The native lives principally upon rice and fish, with a little fruit and vegetables. This low diet is by no means satisfactory to the Europeans and Americans in the islands, which do not produce at present the kinds of food which they demand; consequently the table of the American is supplied mostly with frozen meat, brought from Australia or the States, and with canned vegetables and fruits. Fresh milk, except from caribao, is practically unknown in the islands, there being only half a dozen milch cows in Manila, and the necessity is supplied by condensed milk and canned cream. The islands produce very few fruits which are palatable to Americans.

Since the Spanish times the prices of most commodities and the wages of most kinds of labor have doubled and trebled, not only in Manila, but in most parts of the Philippines, and rents, especially in Manila, have soared skyward. Houses which five years ago were rented for 25 pesos a month now cost two or three times as many dollars. A group of houses recently built of nipa, containing four rooms each, were rented long before their completion at the rate of $36 gold per month, the annual rent of the house amounting to more than twice the cost of the structure.

PHILIPPINE CURRENCY

Until recently the money in use in the islands was what is called Mex., the unit of which was the Mexican dollar or peso, which had varying values in gold, ranging from 40 to 50 cents. Heretofore, during American occupation, American money has been used to some extent, and the natives have thoroughly learned the distinction between the two and their relative values. Until the introduction of the Conant dollar, Mex. was the common medium of exchange, and a somewhat bulky and heavy one. A lady starting on a shopping expedition found it necessary to place in her carriage a bag full of pesos. Fifty or a hundred dollars in pesos, the equivalent of $20 or $40 gold, made about as heavy a load as she would care to carry from the carriage into the shop. Often upon returning from a shopping expedition she brought back less weight with her than she carried. Very little paper money was in use. One would occasionally receive bills on the Hongkong and Shanghai bank, or on a Filipino bank, but they were generally so filthy that the heavy silver was preferable. While the average Filipino is reputed to be somewhat light-fingered, few people even take the trouble to lock up their money, for it is commonly believed that Mex. is too nearly worthless to be stolen.

At the time of the introduction of the Conant dollar, American money was well known to the natives, not only in Manila, but throughout the islands generally. Even the newsboys and boot-

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blacks knew the difference between Mex. and American money, and made change accordingly. An American dime bought two newspapers, while a Mexican ten-cent piece bought but one.

PRESENT PEACE IN THE ISLANDS

The question has been frequently asked, "Is the war in the Philippines over?" This would seem to indicate a great misapprehension concerning the situation in our Pacific islands. Many people seem to suppose that outside of a few garrisoned posts, it is dangerous for white people to travel about. Nothing could be farther from the truth. The fact is that in the portion of the islands inhabited by the civilized peoples—*i. e.*, three-fourths of their area at least—a white man is as safe in traveling or living as in Arizona or Colorado or Montana. He may go about with perfect freedom. Not only that, but the people are ready and anxious to show him hospitality. The Filipino from whom he asks a night's lodging feels highly honored and gives him of his best. The men salute him as he passes, and the children cry "Buenas dias," and are very proud if their salutation is returned. Among the wild people, the situation is much the same, although here it is better to send notice of one's coming in advance and to bear some sort of credentials. With these precautions, there is no more danger than in traveling on the reserve of a tribe of friendly Indians.

To illustrate the situation, the work of the provincial treasurers is instanced. Each of these (they are all Americans) is required by his business to visit every pueblo of his province, and such a trip may involve hundreds of miles of travel overland on horseback or by carromata. So far as known, no treasurer has ever been molested, although he often carries much money about him. The provincial supervisors, also Americans, are obliged to travel everywhere, as are many other civil officers of the government. At the present time, Americans are all over the islands on one errand or another, public or private. No one thinks of danger or provides against it beyond, perhaps, putting a revolver in his pocket.

There are ladrones still at large, but only a few, nearly all having been killed or are in prison serving long sentences, and the islands are now practically free from ladronism. Ladrones, or, as they were formerly called, tusilanes, are simply robbers. The Filipinos have always had them, and they were just as abundant and troublesome in the days of Spanish domination as they have been since the flag of Spain came down. They are often organized into gangs, and their common plan of operation is to shoot up a village at night, rob the houses, and perhaps hold some of the people for ransom. Their operations are always directed against their own people. They never interfere with Americans. The big, husky, efficient American soldier has taught even the worst of them that it won't pay. Two or three Americans have been killed in fights with ladrones, but not one, so far as known, has been intentionally interfered with.

Ladronism reached its maximum early last spring, when a dozen provinces, some of them near Manila, were infested with them. The native constabulary, with white officers, have been most efficient in chasing them down and breaking up their bands. The troops were not called out, as they were not needed. At present there are scarcely any ladrones left, only a few in Albay Province, in southern Luzon, where they have not been pursued with as much vigor as elsewhere, but recent advices indicate that the constabulary have since destroyed their bands.

The war has been over for more than two years. The people are pacified, quiet, and well disposed. They have the utmost respect for Americans, a respect rapidly ripening into confidence and affection. This condition has come about in spite of famine, the loss of their farm animals through rinderpest and surra, and a severe epidemic of cholera.

WILL THE ISLANDS PAY?

Another question frequently asked is, "Will possession of the islands pay us?" In the first place, it is not a question which we should even ask ourselves. The question of profit in any form should not enter into the matter. When we took the islands from Spain we assumed a duty—that of reducing them to order and of maintaining them as good neighbors to the other peoples of the earth. We might have shirked the duty, we might have abandoned them to become a Venezuela or a Haiti, or we might have turned over the work of patrolling and protecting to some other nation, such as Germany, who was eager to exploit them, or to Great Britain, who might have been induced to accept the responsibility for them. If, however, we had been weak enough to have thus shirked our responsibility, I think that every one of us would have lost self-respect, as he certainly would have lost pride in his country. It is not, therefore, a question whether the islands will pay us or not, for no one should stop to consider whether it will pay him to do what is right.

But I think they will pay us in more ways than one, and in one way at least they are paying us already—that is, as just suggested, in self-respect and in national pride. We have unhesitatingly assumed our duties and are fulfilling them. We have reduced the people to order, and have put them under civil government. In our colonial administration we have accepted the best of the English methods—and they are far the best heretofore in use—and have improved upon them from the start in many ways; first of all, by giving this people as great a measure of self-government as they can carry on. Thus far our colonial administration, although our first attempt, and therefore somewhat experimental, has proven eminently successful, and it increases one's pride in his citizenship to note the manner in which we are carrying out this somewhat difficult work.

Even in the matter of dollars and cents it is probable that the islands will ultimately pay us; not that this is a matter of importance, for when a question of duty is involved, a great nation like ours can not afford to debate cost or profit, even if it be millions or hundreds of millions of dollars. When we see our people rapidly obtaining control of the commerce of the Pacific and find our government paper money, mere promises to pay, received as readily as gold in the Far East, in China, and in Japan, we can realize what our advent in the Philippines has done already and what it is leading to. Because of our possession of the Philippines we shall become the dominant power of the Pacific, both politically and commercially.

Japan and Korea, with the surrounding seas and the adjacent coastal region of China, is the subject of a large chart, 26 x 48 inches, just published by the U. S. Hydrographic Office. The chart gives the depths of water along the coasts and is a useful supplement to the land map published by the War Department and issued as a supplement to this number of the NATIONAL GEOGRAPHIC MAGAZINE. The chart may be purchased by sending forty cents to the U. S. Hydrographic Office, Washington, D. C.

RUSSIAN DEVELOPMENT OF MANCHURIA*

By Henry B. Miller, United States Consul to Niuchwang, Manchuria

ONE of the greatest achievements in city construction that the world has ever witnessed is now going on in the heart of Manchuria.

THE BUILDING OF HARBIN

In the building of such cities as Vladivostock, Dalny, and Port Arthur, Russia has demonstrated her power and purpose on the Pacific in line with the world's conception of her character; but in the construction of this wonderful city of Harbin she is displaying an altogether different type of activity from what we are prone to attribute to her.

It is in this city, more than in all the others combined, that Russia is asserting her intentions of becoming an active industrial force in the affairs of the Orient, and her people are already giving the place the title of the Moscow of Asia.

The city is located on the Sungari River, at the point where the Manchurian branch of the Siberian Railway crosses the stream and where the Chinese Eastern branch starts south to Dalny and Port Arthur. It is about 350 miles west of Vladivostock and 600 miles north of Port Arthur. Its location is the geographical center of Manchuria, and from present prospects it is to become the commercial center as well. The city is surrounded on all sides for hundreds of miles with a rich and productive agricultural country, producing corn, wheat, oats, barley, beans, millet, hemp, tobacco, vegetables, and some fruits. Minerals and timber and great areas of grazing lands also surround it.

At present the place consists of the old town, 3 miles from the central depot, Prestin or the river town, the present commercial center, and the administration town, in close proximity to the railway station. Before the railway engineers established this as their headquarters there was no native town in this vicinity, and the entire place is therefore a Russian product.

ADMINISTRATION

It is as distinctly a Russian city as though it were located in the heart of Russia, and none but Russians and Chinese are permitted to own land, construct buildings, or engage in any permanent enterprise. The city has been created by the Russian government, under the management of the Manchurian Railway Company. The land for many miles in each direction has been secured so as to make it impossible for any foreign influence to secure a profit or foothold close to the city, and foreigners are not recognized as having any rights whatever, but are permitted there by sufferance. The chief railway engineer is the administrator of the city, and up to the present time has had complete control of everything, but in the new scheme for the government of Manchuria some form of municipal organization will be permanently established.

In 1900 the place began to assume importance as a center of railway management, and in 1901 the population had grown to 12,000 Russians; in 1902, to 20,000; by May, 1903, to 44,000, and in October, 1903, a census showed a population of 60,000, exclusive of soldiers. Of these, 400 are Japanese and 300 of all other nationalities, including Germans, Austrians, Greeks, and Turks. All the rest are Russians. There are no Americans.

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* The NATIONAL GEOGRAPHIC MAGAZINE is enabled to publish in full this excellent account of Russian progress in Manchuria up to the close of 1903, through the courtesy of Hon. O. P. Austin, chief of the Bureau of Statistics.

The railway and administration employés, including families, constitute 11,000 of the population. The Chinese population is about 40,000, located in a special settlement. The ratio of women to men is as follows: Japanese, 120 per cent; Russians, 44 per cent; Chinese, 1.8 per cent; average of women, 14.3 per cent.

Harbin is the center of the entire railway administration of Manchuria, and, as the Russian commercial enterprises of the Far East are under the direction of the railway company, it will also be the center of Russian industrial and commercial development. It is the headquarters of the civil courts and the chief military post and the main center of control of all the vast army of railway guards. The administration city, therefore, consists of all of the public and private buildings and shops necessary for these various departments. Residences for the employés cover the largest area of this division of this marvelous city.

The following are some of the principal buildings of the administration city;

Building.	Cost of buildings.	
	Rubles.	*Dollars.*
Administration buildings, three stories in height, having a total floor space of 3,600 square sagene (176,400 square feet), to cost when finished	1,200,000	618,000
Railway shops	2,500,000	1,287,500
Hospitals	626,000	322,390
Commercial school and girls' school	500,000	257,500
Technical school	250,000	128,750
Eight schools for teaching Russians Chinese and for teaching Chinese Russian	96,000	49,440
Club and store for employés	370,000	190,550
Hotel	163,000	83,945
Russo-Chinese bank	200,000	103,000

The total administration expenditure on the city has been 30,000,000 rubles ($15,450,000).

TRANSPORTATION

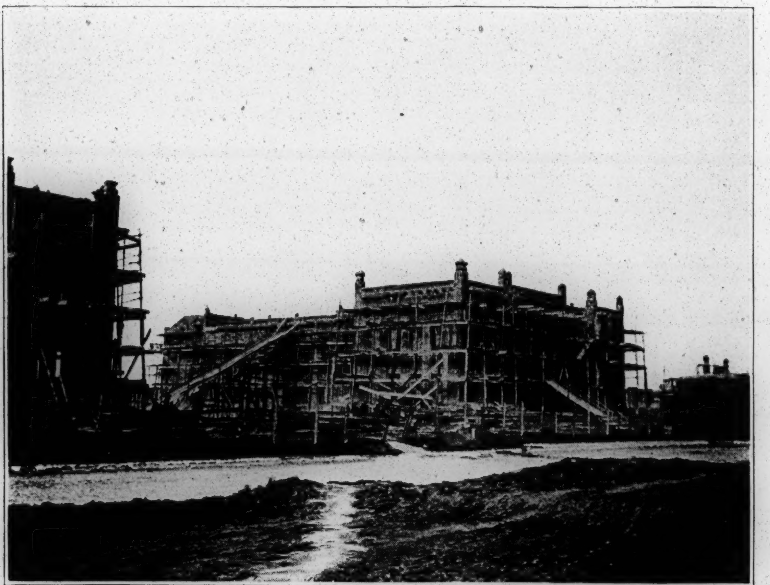
Steamers.—The Sungari River is navigable with light-draft steamers and native craft for nearly 200 miles above the city, up both branches of the river, and much traffic has already developed on these streams, especially in wheat.

From Harbin to the Amur River, during the navigating season, which begins in April and ends November 1, good-sized river steamers run daily. These steamers are well fitted with good, comfortable cabins for first, second, and third class passengers. They carry large cargoes of freight and usually tow barges loaded with freight. From Harbin to seagoing steamers at the mouth of the Amur cargo is carried now at 14 kopecks per pood, or about $4 gold per ton The Chinese Eastern Railroad Company and the Amur Steamship Company run good steamers on this line, and there are also several private boats covering the same route. All are loaded continually to their full capacity.

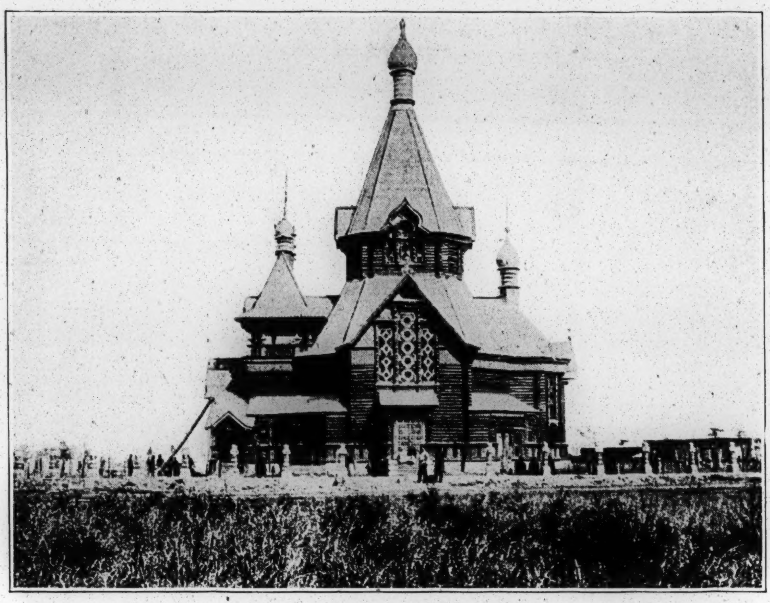
The steamers are mostly of the sternwheel type, burning wood, such as are in operation on the western rivers in the United States, but as far as I could learn none are constructed of American-made machinery. The time usually required to go from Harbin to Kharborofsk, at the mouth of the Ussuri River, on the Amur, is five days. At this place these steamers connect with trains for Vladivostock.

Railroads.—Going west from Harbin the train takes you by a branch line from the crossing of the headwaters of the Amur to Stretensk, the head of navigation of this great river, while the main line goes to Lake Baikal (Siberia) and Russia. Going east, the railway reaches the sea at Vladivostock over a grade that does not exceed in any place 13 feet to 1,000. Going south, the Chinese Eastern Railway meets seagoing ships at Niuchwang, Dalny, and Port Arthur. The heaviest grade on this line is 9 feet

Administration Building, Harbin, October, 1903 (to cost 1,200,000 rubles, $618,000)



School of Commerce, Harbin, October, 1903. Woman's College on the Left



Russian Church, Harbin

View of Russo-Chinese Bank and Railroad Hotel in the Distance, Harbin, October, 1903 to 1,000, and that for only a short distance and at rare intervals.

In October, 1903, the regular number of trains dispatched for through traffic was thirty per day. Eighteen local trains were dispatched in addition. These local trains connected the two extremes of the town, viz., the old town and Prestin, with the administration part of the city.

There are also about 400 nesoshticks, or Russian carriages, for public use, and the average earnings of these vehicles is 5 rubles ($2.58) per day.

There is also an automobile line ready to start four machines to operate between the old town and the administration city; each vehicle will carry ten persons. These machines are now on the ground and will carry passengers for 20 kopecks (10 cents) each way. This line is in connection with an electric tramway that is to run a loop line through the river town, or Prestin, and a double loop, or figure 8, line throughout the administration town. This is a private corporation, with a capital of 250,000 rubles ($128,750). The same company is to provide an electric-light system for all three sections of the city.

DISPOSAL OF LAND

Harbin was started primarily as a military center and an administration town for the government and direction of railway affairs. Its growth into a splendid commercial and manufacturing city was not originally provided for by the promoters, and it has been somewhat of a surprise to them, but the fever of making it a great Russian commercial and manufacturing city has now taken possession of the railway management, and every system of promotion and protection that can be devised to increase its growth along these lines is being energetically encouraged.

The capital for most of the private enterprises is furnished by Siberian Jews. Chinese are furnishing money for the construction of some of the finest private buildings, such as hotels, store-rooms, etc. In the administration part of the city no private buildings of any kind are permitted.

The old town was the first to be laid out, and the land was sold to the public at the rate of 1 ruble (51.5 cents) per square sagene (49 square feet) the first year, but this rate is now increased to 3 rubles ($1.55) per square sagene. Following this, in 1901, the administration town was laid out and construction work began on buildings covering 20,000 square sagene (198,000 square feet). Later the river town Prestin was laid out, and in a very short time all of this was sold at a price of 17 rubles ($8.70) per square sagene, and most of it is now covered with substantial brick structures, there being 850 buildings, constructed at a cost of 8,000,000 rubles ($4,120,000). Recently two very large additions were laid out adjoining the administration town, and the land has been sold at prices ranging from 5 to 15 rubles ($2.57 to $7.73) per square sagene. This was purchased largely by speculators, and is being bought from them now at from 20 to 40 rubles ($10.30 to $20.60) per square sagene (49 square feet).

The administration has already received over 2,000,000 rubles ($1,030,000) for land sold to private parties. Many elegant residences and substantial structures are in course of construction in the additions adjacent to the administration town. A hotel and theater combined was built at a cost of 60,000 rubles ($30,900) and rented for 25,000 rubles ($12,875) per annum.

All of this land is secured on an eighty-six years' lease.

THE RUSSO-CHINESE BANK

This is the only banking institution in the place, and it has an elegant home in a structure of stone that has a steam-heating and electric-lighting plant of its own. The building cost 200,000 rubles ($103,000). The business of the bank has increased 30 per cent during the past year, and its daily transactions, exclusive of railway and other government accounts, amount to 400,000 rubles ($206,000). The bank makes no loans on realty, but advances from one-third to one-half capital for current substantial business. It is inaugurating a very efficient and active system of credits to Chinese merchants purchasing Russian goods for sale in Manchuria. In some cases as much as 200,000 rubles ($103,000) have been given in letters of credt to Chinese for purchases in Russia.

These experiments are proving profitable and satisfactory. The largest success is reported in cotton goods. Many large orders are now being placed in this line and a substantial trade is being created. These goods are brought into Manchuria via Vladivostock free of duty. So far, sugar has been the only article purchased on which the Chinese have lost money.

This system of advancing credit to Chinese merchants for the purchase of Russian goods prevails now generally throughout Manchuria, and it is by this method and by imports free of duty and favored rates over the railway that Russian cotton goods are likely to capture the great trade of Manchuria that is now largely in the hands of American manufacturers.

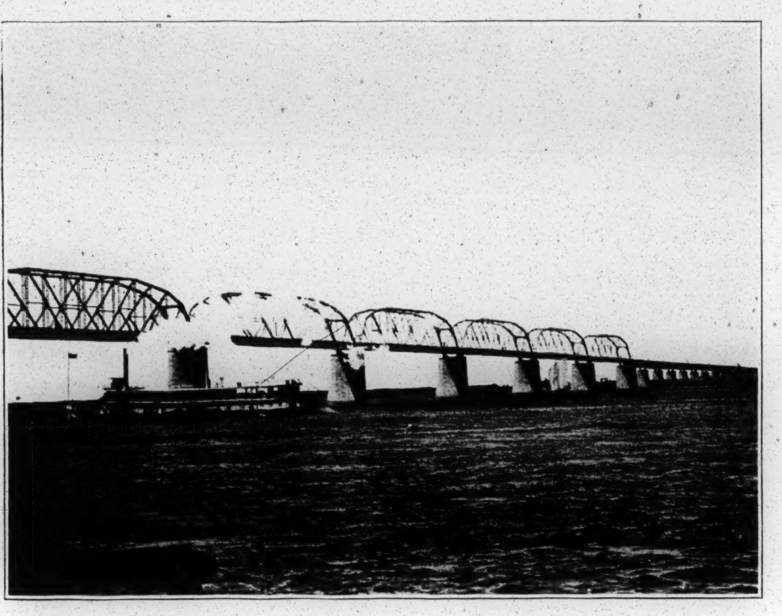
The Russo-Chinese Bank is also very generous to Chinese and Russian merchants in encouraging the purchase and shipping out of native products, but it is exclusive in its methods and will not encourage foreigners.

INDUSTRIES OF HARBIN

The leading industry of Harbin is the manufacture of flour. Eight mills are now in operation, all with modern European machinery with one exception, and that is a small one constructed with American machinery. Applications have been made and granted for the construction of two more large ones, and by the middle of 1904 10 mills will be in operation, producing 25,000 poods (902,800 pounds) of flour per day. They pay from 30 to 35 cents gold per bushel for their wheat delivered at the mills, and the wheat-producing area can be increased enormously. The present value of the flour mills in Harbin is 1,200,000 rubles ($618,000).

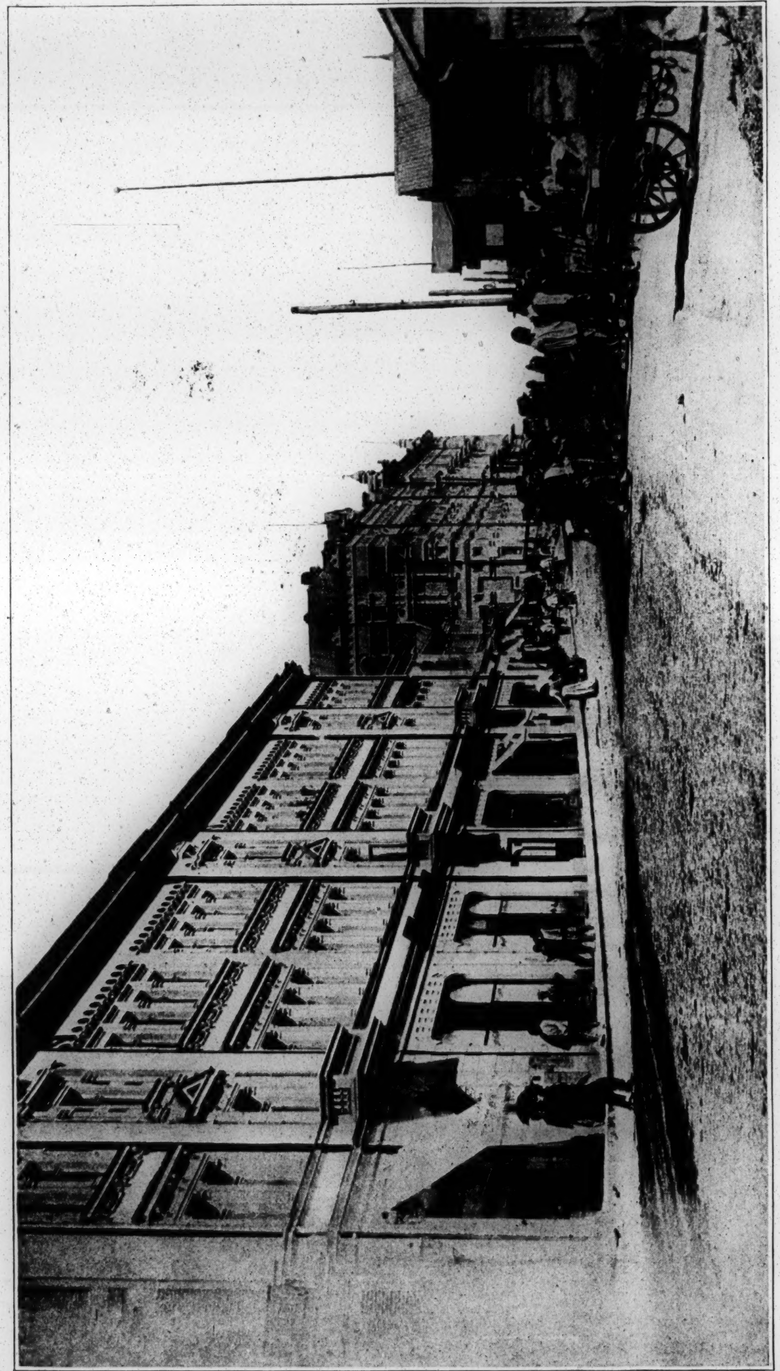
In the immediate vicinity of Harbin there are 200 brick-making plants, the cost of which was 500,000 rubles ($257,500). Two of these plants were constructed by the administration, at a cost of 200,000 rubles ($103,000). Most of the brick produced are used in the construction of the city. A very good grade of red brick is produced and sold for 6.50 rubles ($3.35) per 1,000. Most of the work is done by Chinese, who are paid 35 kopecks (18 cents) per day.

The next industry of importance is the production of the Russian liquor, vodka. There are eight manufactories, constructed at a cost of 200,000 rubles ($103,000). Several of these produce vodka from spirits of wine and sugar brought from Russia. Some produce only the spirits of wine from the local wheat, while others produce their spirits from local wheat and the vodka from their own manufacture of spirits. The consumption of vodka in Harbin alone is 1,000 vedro (2,707 gallons) per day, and the consumption throughout Manchuria is something enormous. In Russia the production is very heavily taxed, and it costs 10 rubles ($5.15) per vedro (2.707 gallons), while in Harbin it sells at from 1.50 to 2.50 rubles (77 cents to $1.28) per vedro. This is for 40 per cent alcohol. To make 1 vedro of 96 per cent of spirits of wine requires 82 pounds of wheat. The bottles for this vodka are at present brought from Japan, but at Imonia, in Manchuria, the Russians are now building a large bottle and glass factory.



River Sungari, Harbin—Russian Railway and Russian Steamer

Completed Section of Dalny, showing Residences of Railway Officials



Business Buildings in River Town, Harbin

Three breweries are now in course of construction in Harbin, to cost 200,000 rubles ($103,000). The Russians are great beer-drinkers and produce in Russia very good beer, but it is not of the quality that bears shipping long distances; hence very little Russian beer is to be seen on the Pacific coast or anywhere in Manchuria. At the present time American beer has the best of the Manchurian market, as 150,000 dozen bottles are imported through one firm at Port Arthur every year. A fine quality of barley is produced in the Sungari Valley, and these breweries will be able to buy it at about half the cost in the United States. There is little doubt but that the Russians will soon be producing all of the beer consumed in Manchuria. Our Pacific Coast hop men ought to be able to sell them their hops, however.

There are several companies engaged in this business, with plants costing altogether 250,000 rubles ($128,750). They cure hams, bacon, and all varieties of smoked meats and produce excellent articles. The hogs and cattle in this part of the country are grain-fed and make splendid meats, and the Russians are experts in preparing it for markets. So far these concerns have not been able to supply the Manchurian markets, but the cheap labor of the country, in combination with the cheap grain and the familiarity of the Chinese with hog-raising, makes a good foundation for the growth of the industry, and I can see no reason why it should not continue to grow sufficiently to produce all that may be required for the oriental markets.

There is a plant costing 25,000 rubles ($12,875) for the preparation of bean oil for use in painting.

Russians are especially fond of candies and sweets, and few people know how to produce a quality equal to the Russian product. There is a manufactory in this line in the old town costing 10,000 rubles ($5,150).

There is on the river a small sawmill that cost 15,000 rubles ($7,750) and two on the railway line between Harbin and Vladivostock that cost 150,000 rubles ($77,500).

AGRICULTURAL RICHES

There are many other industries in embryo, and, as the place is located in the center of an extremely rich agricultural country, has splendid transportation facilities, and is doing so well in the establishment of manufacturing, there is little doubt that it will increase at a very rapid rate as a manufacturing and commercial center.

The country is productive in wheat, cattle, sheep, hogs, millet, barley, oats, corn, beans, furs, hides, wool, bristles, bean oil, bean cake, hemp, tobacco, and timber, and has various undeveloped mineral resources; in fact, it has all the natural elements for the foundation of a great city.

RUSSIAN INVESTMENT IN MANCHURIA

The chief engineer who was in charge of the construction of the Russian railways in Manchuria informed me that Russia had expended in railways in Manchuria 270,000,000 rubles ($139,050,000). Add to this her investments in fortifications and in the constructions of the cities of Port Arthur, Dalny, Harbin, and other places, and it is a very moderate estimate to place her investments in permanent properties in Manchuria at a total of 500,000,000 rubles ($257,500,000).

AMERICAN VS. RUSSIAN TRADE IN MANCHURIA

What is the meaning to the United States of all this progress of Russia on the Pacific—the building of such cities as Harbin and the political domination of the country? It has been recently asserted by prominent people that it signified an enlargement of the market for our goods, and that of the present imports into Manchuria 75 per cent were from the United States. General statements of this nature are easily made and easily believed, and without any careful examination into the details it has been the usual thing to assume that this development of Russia in Manchuria was certain to bring an increased market for the products of the United States. The subject has not yet been examined in all its phases as it should be, and as far as I know there is no one prepared by study and knowledge of all the details of the question to give a wise decision as to what the effect will be upon American trade from merely an economic point of view.

At the present time the principal imports from the United States into Manchuria stand in the following order: Cotton goods, kerosene, flour, lumber, canned and dried fruits and vegetables, beer, canned milk and butter, cigarettes, and sundries.

The exports from Manchuria to the United States are so small as to be a matter of no consequence.

Cotton Goods.—In cotton goods Russia is anxious for the trade, and is making every effort to secure the business and is becoming a serious competitor. Her advantages in this line are political, bank advances, and transportation. In a free contest, on purely economic lines, I think the United States can hold it. Russia favors the export of cotton goods into Persia by a heavy bounty, and just what she will do in order to secure this trade in Manchuria is not yet determined. At present she is providing a heavily-subsidized steamship line to bring these goods to Dalny and Vladivostock, where they enter free of duty, and no doubt they receive preferential railroad rates from these into the interior, or will if necessary.

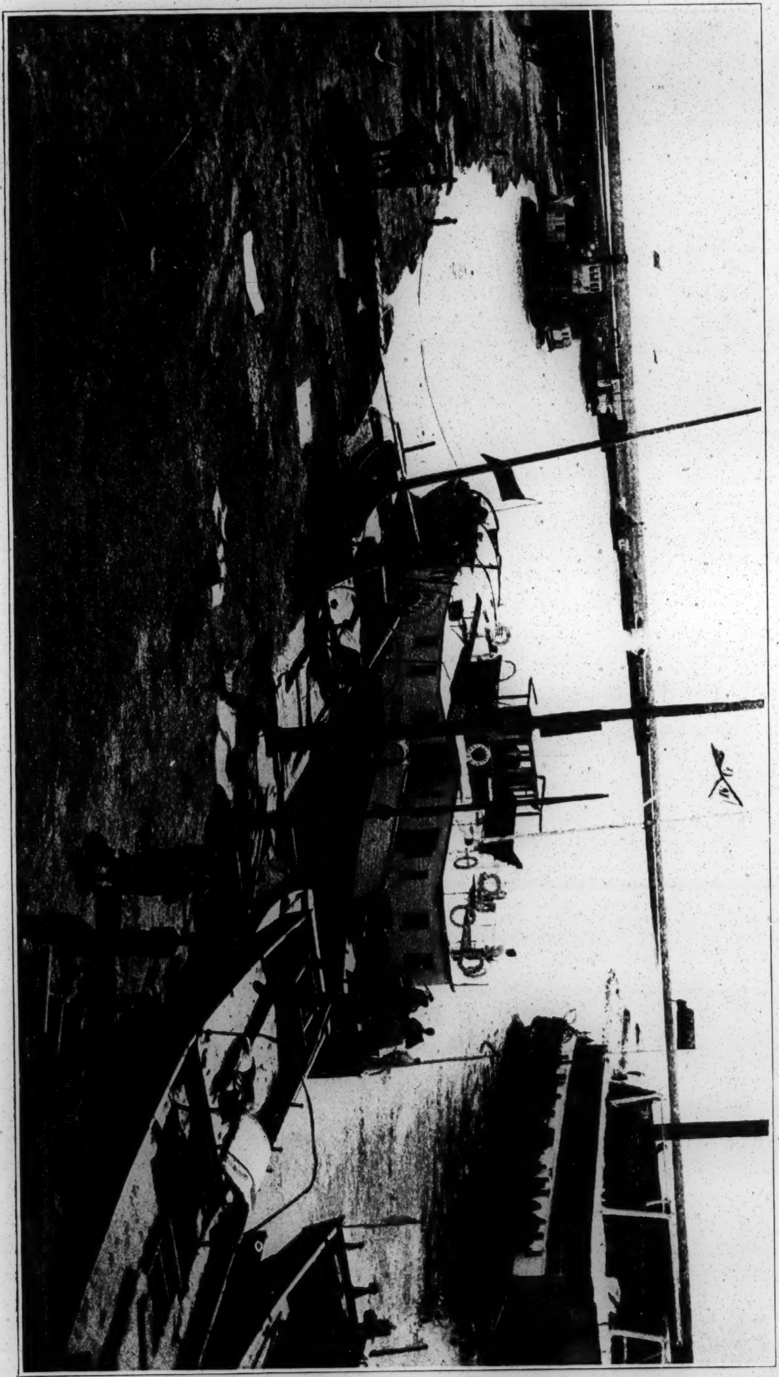
These things, together with the financial help of the Russo-Chinese Bank, have not yet been sufficient to do more than start the trade well, and they may have to resort to a bounty in addition, unless they can shut out foreign goods by a tariff.

The production of cotton goods in Russia is growing very fast, and, as they have their designs on securing the trade of Manchuria in this line, it is only reasonable to suppose that they will eventually secure the trade they are prepared to handle in any country over which they have control.

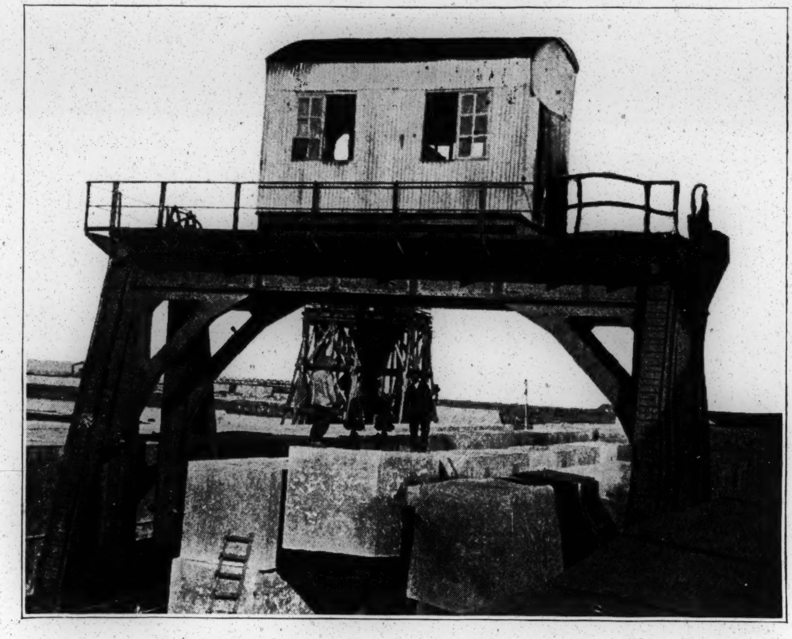
The following is from the pen of a well-known American writer, who has investigated the subject carefully and is thoroughly acquainted with the conditions of production and marketing of Russian cotton goods:

"There is considerable excitement just now about the Russian possession of Manchuria. * * * If Russia adopts the same methods as to other parts of Asia that she is now using in Persia she will drive all other countries out of the market. She has now the monopoly of the cotton business of Persia, and she has gotten it by giving a bounty to her manufacturers. On every pound of Russian cotton goods sent to Persia the Moscow exporter gets an allowance of 3 cents from the government. One cent covers the freight and he has 2 cents a pound profit, besides the usual profit on the goods. The English or German manufacturer has to pay full freight, with no rebate, and he can not compete. This same system will be adopted in China. * * * After the trade has been captured the rebate may be discontinued and the price will rise."

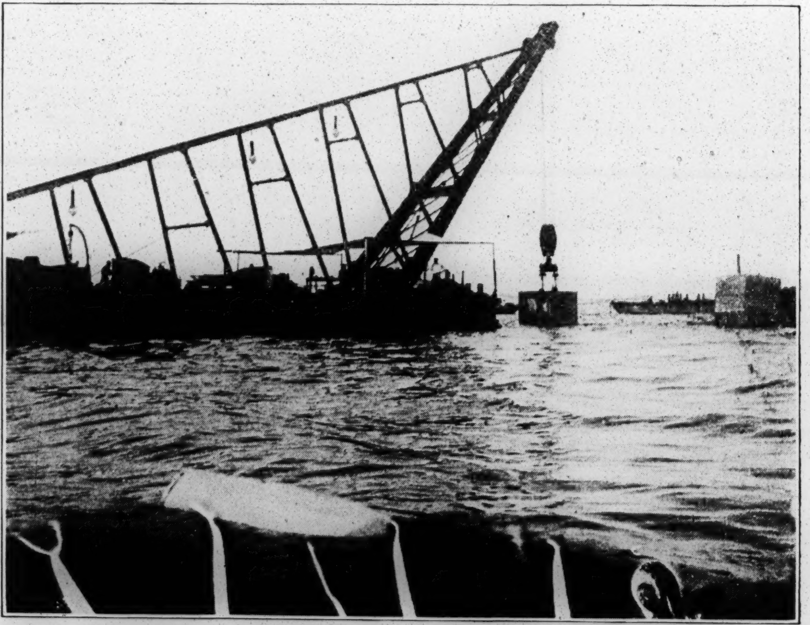
Kerosene.—This is the next in importance of American imports into Manchuria. Russian oil is already making very good headway in a free and equal competition with American oil. By forcing its use in all the cities of Manchuria, by special aid from the Russo-Chinese banks that are now established in all the principal cities, by preferential rates on the railway, by providing tank cars and tank stations along the railway line and refusing these advantages to American



River Sungari, Harbin



Handling the 50-ton Blocks for Construction of Piers, Dalny



Laying the 50-ton Blocks for the Piers, Dalny oil, it appears to me that Russian oil will have an absolute monopoly of the trade if full control of the country is secured to Russia.

Flour and Lumber.—Concerning these products I have recently issued detailed reports, the summary of which indicates that the Russians have it in their power not only to capture our trade in Manchuria, but to become our most severe competitors in all the oriental markets.

Green and Dried Fruits and Canned Fruits and Vegetables.—In all of these lines I find United States trade expanding considerably, and from every point of view within my observation I am induced to believe that the trade will have a large and permanent growth without danger of disastrous competition.

Beer.—Our trade in this article meets with the competition of Japanese and German beer, but it has been growing continually and is now greater than ever before. When the several breweries in course of construction at Harbin are in operation our trade in this line is most likely to suffer, and in time may give way entirely to the Russian product.

Condensed Milk and Butter.—In butter, the Siberian article is already capturing the Manchurian market, as it is being handled by the commercial department of the Chinese Eastern Railway. It may become a very aggressive competitor for the entire market of the Orient. In condensed milk we have a large and growing market, not only in Manchuria, but throughout the Orient. Should the Russian government elect to engage in this business also, it has the advantage of very cheap milk in Siberia and one of the finest countries in the world in the valley of the Liao, together with cheap labor to establish the industry on a basis that would make it a great rival for our condensed-milk trade with Japan and China.

Cigarettes.—Russian cigarettes are already securing much of the trade and are now in greater evidence throughout the country than any other.

Sundries.—At Harbin an agent of a New York firm informed me that American trade there was confined now to canned goods, including fruits, vegetables, milk, etc., beer, sole leather, carts, and a few lines of hardware.

People informed me that they had succeeded in substituting Russian engines and railway material for American, and that the railway regulations now provided for the purchase of everything Russian when possible, and that had cut off much American trade. They also said that they were succeeding in driving out American kerosene, flour, lumber, cotton goods, and other things, and that they hoped soon to provide Manchuria with all the things that now come from the United States.

United States trade in Manchuria with the Chinese amounted to several millions of dollars per year and was almost entirely imports. It had grown very fast, and would have had an extended and most substantial increase without the Russian development, for the country was being improved and extensively developed, with a continual immigration from other provinces in China, before the railway construction began.

RUSSIA'S COMMERCIAL ADVANTAGES

A study of conditions in Vladivostock, Harbin, and other districts is not particularly encouraging to the idea of extension of American trade in Manchuria in any line that Russia is prepared to supply. A knowledge of the earnest intention of the Russo-Chinese Bank to press the sale of Russian goods, a slight insight into the methods and determination of Russian railways to find a market for the products of Russia, and the interest displayed in developing resources along their lines for Russians and Chinese only, taken in connection with the natural wealth and resources of the country, do not favor the hope that under a Russian régime our trade in Manchuria will be as large as it was before.

If we take into further consideration the fact that the Russian government—by subsidies and bounties and through its banks and railways—is engaging in industrial and commercial pursuits as a government, and calculate the cheap food, cheap and reliable labor, and the vast mineral resources that she will have at her command on the Pacific, the question of the Manchurian market becomes comparatively insignificant, and we find ourselves face to face with the greater problem of the markets of all Asia.

Constructing a Dry Dock at Dalny

Like the builders of the ancient pyramids, the Russians in Manchuria have no lack of laborers. They pay the Chinese laborers 30 cents a day in winter and 20 cents a day in summer.

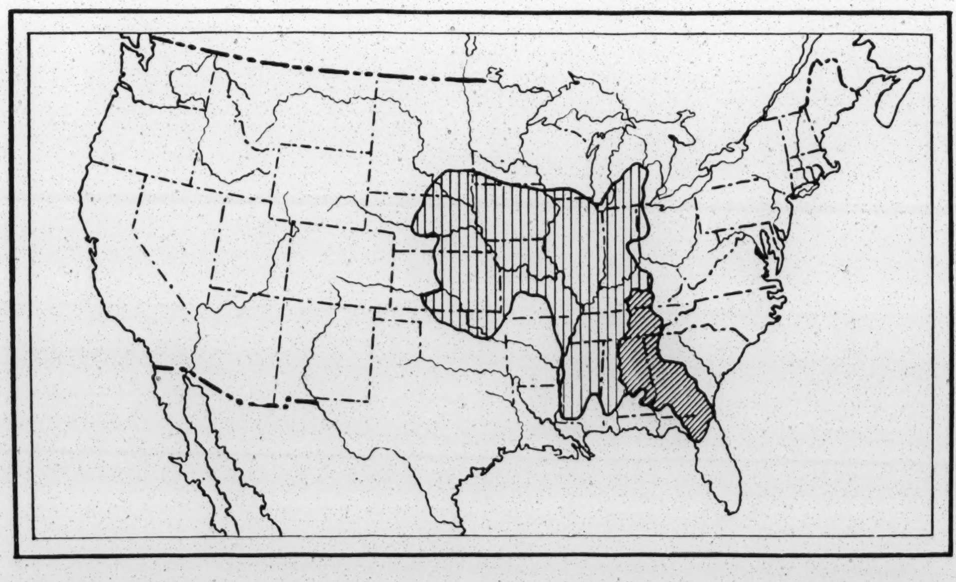
With millions of cheap and efficient Chinese laborers, with vast coal fields bordering on the Pacific, with mountains of iron and copper, vast forests, and enormous areas of agricultural land, producing now the cheapest food in the world, what is to prevent Russia, if her apparent plans are realized, from becoming a dominating factor in the commercial development of the Far East? One can not view the marvelous growth of a city like Harbin or observe the cities of Vladivostock, Dalny, and Port Arthur and the great Siberian railway without pondering seriously the meaning of it all in the future of Russia on the Pacific.

For the present, the prospect is that we shall at least meet with such unfavorable conditions in Manchuria as will endanger our present lines of trade. Whether or not this will be compensated for by an increase in other lines is not at this time clear.

There ought to be, and most likely will be, a large trade in agricultural implements. Of foreign countries, Germany is securing the most of this trade now in Siberia and Manchuria, and there is no doubt whatever but that German trade is benefiting enormously by recent Russian domination of Manchuria. Next to the Germans come the Austrians, and next to them the Danish.

It is not in the least inspiring for an American to go through as busy and active a trade city as Harbin and find so few things from his country and not a single American citizen or progressive business house. The vision of 75 per cent of American imports into Manchuria dwindles to a most insignificant amount. When you see the great flour mills continually enlarging and increasing in number, when you see the numerous breweries being constructed, when you see Russian engines, and German, Austrian, and Danish machinery and products, and hear of the successful development of Russian lumber mills and the introduction of Russian cotton goods, and see in the Chinese stores Russian oil and cigarettes where before were American, and where you hunt with straining eyes to find something from the United States, one is not seriously impressed with the statement that, under Russian occupation, our imports into Manchuria are sure to increase.

Unfortunately, the only customs returns by which we can measure our trade year by year in Manchuria are from the port of Niuchwang, and even that is very imperfect, for the imports all come from Japan, Hongkong, and other Chinese ports, and the place of origin of the goods is not given in all cases. Goods are coming into Manchuria in great quantities through Port Arthur, Dalny, and Vladivostock continually, as well as through Niuchwang, but there is no means of securing a proper report of them.



Map showing Comparative Size of Manchuria and Korea and the United States

(See page 128)

MANCHURIA AND KOREA

THE magnificent war map of Manchuria and Korea, 36 by 42 inches, which is published as a Supplement to this number of the NATIONAL GEOGRAPHIC MAGAZINE, was prepared in the Military Information Division of the War Department from the latest explorations and surveys. Through the courtesy of the War Department, and in particular of Captain H. C. Hale, Acting Chief of the Division, the National Geographic Society is able to publish a large edition of the map. A key to the Supplement is published on the opposite page.

Manchuria corresponds in latitude to Manitoba, North Dakota, South Dakota, Minnesota, and Nebraska. Its area of 362,310 square miles is only 10,000 square miles less than the combined area of these great grain states. It is nearly three times greater than California, and is as big as Texas, Alabama, and Louisiana combined. Consul Miller in the preceding article describes the vast undeveloped resources of Manchuria. In the northern part of the province are thousands of square miles of rich wheat land entirely untouched. Manchuria has a possible wheat area as great as that of the United States.

Unlike China proper, Manchuria is not densely populated except in the south. The estimate of its population ranges from 10 to 20 millions. Korea is the same size as Kansas and slightly smaller than Minnesota, but, unlike Kansas and Minnesota, it is exceedingly mountainous. It has a population estimated at from 8,000,000 to 16,000,000, and its area is 80,000 square miles.

The mass of names given on the Supplement in Southern Manchuria, and especially in Korea, shows how densely populated are certain sections of these countries, and yet their density of population is not to be compared to that of Japan. Japan has a population of 45,000,000, increasing rapidly and living in a space no larger than the State of Montana; but only a part of her area of 150,000 square miles can be cultivated. The 45,000,000 Japanese are practically supported by what they can raise from an area one-third as large as the State of Illinois, less than 20,000 square miles.

The U. S. Consul at Vladivostok, writing just before the outbreak of the war, said:

"Owing to the low third-class rates, the traveling from western Europe to the Far East by the usual trains has become exceedingly cheap. The cost of transporting a third-class passenger from Hamburg to Shanghai by the Siberian and Manchurian railroads amounts to $51.50, inclusive of food, whereas the cost of a sea voyage is about $154.50. The German Government consequently has determined to transport German soldiers to the Far East and return by way of Siberia."

The following authorities may be read with profit at the present time:

"The Russian Advance." A. J. Beveridge. Harpers.

"The Yankees of the East." W. E. Curtis. Stone & Kimball.

"Handbook of Modern Japan." E. W. Clement. A. C. McClurg & Co.

"Korea." A. Hamilton. Scribner's.

"Korea and Her Neighbors." Mrs. I. L. Bishop. F. H. Revell Co.

"Manchuria: Its People, Resources, and Recent History." Hosie. London, 1901.

"China." J. H. Wilson. D. Appleton & Co.

"China—the Long-Lived Empire." E. R. Scidmore. Century Co.

"Village Life in China." A. H. Smith.

"Great Siberian Railway." M. M. Shoemaker. Putnam's.

"Guide to Great Siberian Railway." Ministry of Ways of Communication. St Petersburg.

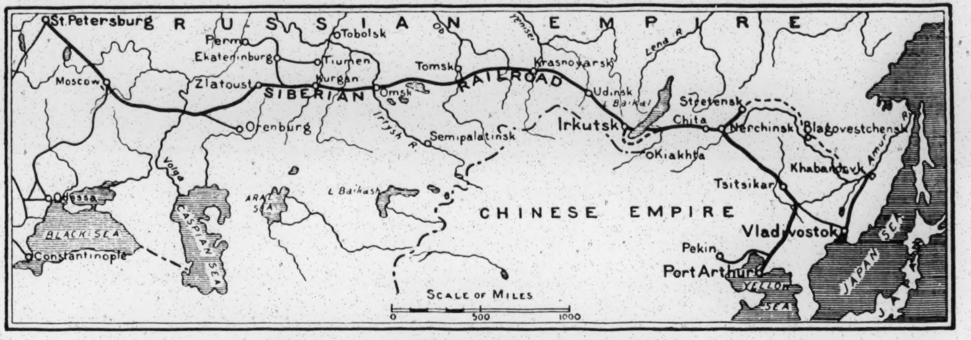
"An American Engineer in China." W. B. Parsons. McClure, Phillips & Co.

"The Awakening of the East." P. Leroy-Beaulieu. McClure, Phillips & Co.

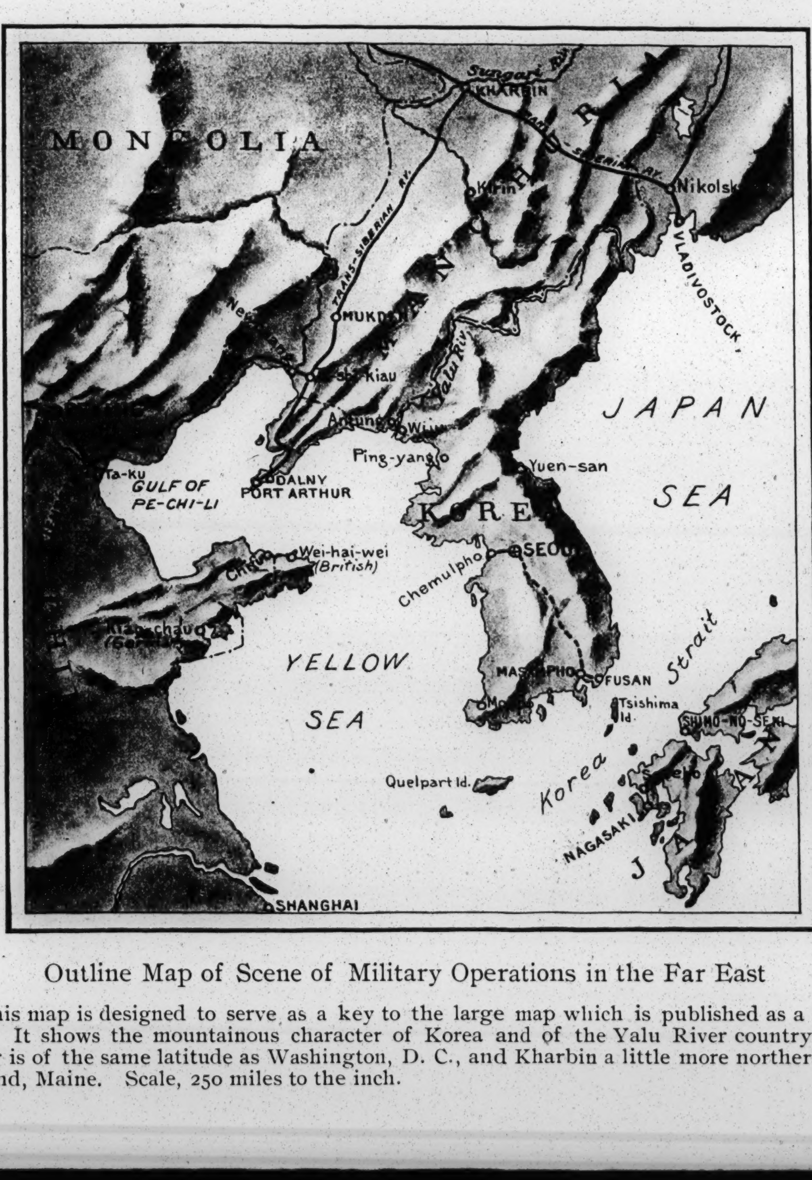
"The Mastery of the Pacific." Archibald Colquhoun. Macmillan Co.

"Problems of the Far East." Lord Curzon. Longmans Green & Co.

"American Diplomacy in the Orient." J. W. Foster. Houghton, Mifflin & Co.

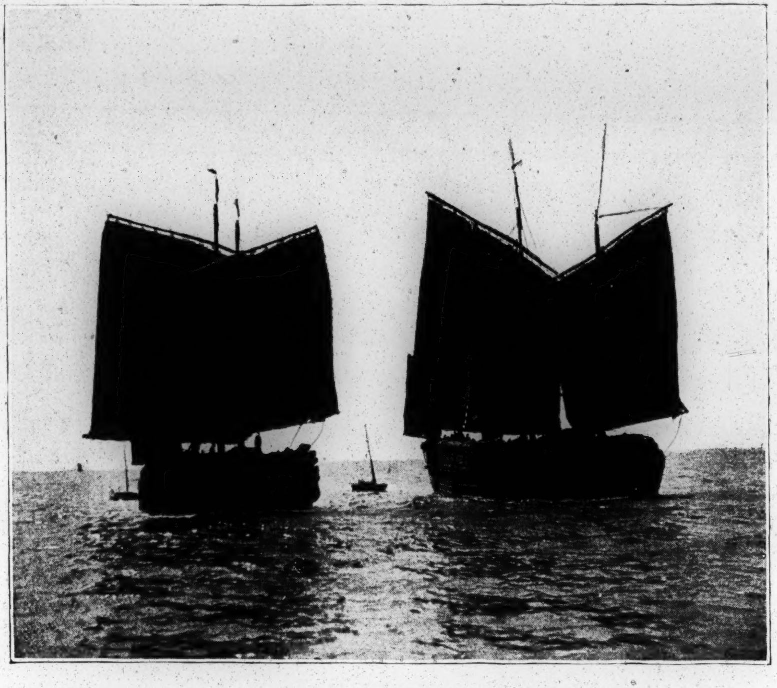

RUSSIAN EMPIRE
St. Petersburg
Moscow
Perm
Ekaterinburg
Tobolsk
Tiumen
Kurgan
Zlatoust
Orenburg
SIBERIAN RAILROAD
Omsk
Tomsk
Krasnoyarsk
Udinsk
Irkutsk
Baikal
Lena R.
Stretensk
Chita
Nerchinsk
Blagovestchensk
Kiakhta
Khabarovsk
Amur R.
Tsitsikar
Vladivostok
Semipalatinsk
Irtysh R.
L. Baikash
Aral Sea
Volga
Odessa
Black Sea
Caspian Sea
Constantinople
CHINESE EMPIRE
Pekin
Port Arthur
Yellow Sea
Japan Sea
Japan
Scale of Miles
0
500
1000

Map of the Great Siberian Railway


MONGOLIA
MANCHURIA
Sungari Riv.
KHARBIN
Kirin
Nikolsk
VLADIVOSTOCK
TRANS-SIBERIAN RY.
MUKDEN
Yalu Riv.
Antung
Wiju
Ping-yang
DALNY
PORT ARTHUR
Ta-ku
GULF OF PE-CHI-LI
Yuen-san
KOREA
SEOUL
Chemulpho
Wei-hai-wei (British)
Chefoo
Kiao-chau (German)
YELLOW SEA
JAPAN SEA
MASANPHO
FUSAN
Tsishima Id.
Korea Strait
SHIMO-NO-SEKI
Quelpart Id.
NAGASAKI
JAPAN
SHANGHAI

Outline Map of Scene of Military Operations in the Far East

This map is designed to serve as a key to the large map which is published as a supplement. It shows the mountainous character of Korea and of the Yalu River country. Port Arthur is of the same latitude as Washington, D. C., and Kharbin a little more northerly than Portland, Maine. Scale, 250 miles to the inch.



Junks Bringing Timber to Niuchwang from the Yalu River

There are 25,000 of these junks trading at Niuchwang

Chinese Sawmill in Manchuria

LUMBERING IN MANCHURIA

THERE are many lumbering enterprises being established in Manchuria, Siberia, and Sakhalin, preparing to compete with the Pacific Coast lumber.

The most important is the Russian Timber and Mining Company of the Far East, with headquarters at Port Arthur. This company is organized by some of the most prominent men connected with the Russian government, and is reputed to have a capital of 20,000,000 rubles ($10,300,000). Its principal operations will be on the Yalu River, where it runs down timber from the forests of Korea as well as the large forests of Manchuria.

I have been informed by men who have seen these forests that they are very extensive and contain immense quantities of exceedingly fine timber. There is much fine timber in this market from that locality, and it has been the source of supply for both this and the Tientsin market for ages.

The ocean and river junks are built of this timber, hewn out in large pieces, often 3 feet and more in width. There are about 25,000 of these junks trading at this port (Niuchwang). The timber is mostly pine, very much like the white pine of the United States. This is the best quality of lumber that I have seen in China. The percentage of clear wood is not very large.

There is also considerable fir, usually much smaller than the pine, and also a timber similar to our tamarack. These are the three varieties from the Yalu district that I have seen. It is brought into this market and the other markets of China on junks. These junks, when coming to this market, usually sail in fleets as a means of protection against pirates, who often board them near the mouth of this river and rob them or levy tribute on them.

Most of this timber is driven or rafted down the Yalu in short lengths, and it is almost impossible to get long timbers from this district. The Chinese, in their native affairs, seldom use any but short timbers, and all the timber cut for Chinese consumption is cut into short lengths in the forests.

Up to the present the logs from this section have been cut into lumber by the whipsaw method, the natives using a thin and narrow saw blade with teeth set so as to cut both ways. Where the Russians have charge of the native sawmills they have introduced large and heavy saws, cutting only on the downward stroke—such saws as are used in our country for whipsawing lumber. With these the natives accomplish much more.

On the Yalu this old method is now to give way to another. Russia is to construct at the mouth of this river the third largest sawmill in the world. I have not been able to get the details or to ascertain whether the mill is to come from the United States or not, but it is certain that a great mill enterprise is already in process of construction. It is to be situated at one of the points of political controversy. It is at this place that the great naval battle between China and Japan was fought, the conclusion of which practically settled that war.

RUSSIAN LUMBER

In addition to this competition, which is already supplying large quantities of timber and lumber to Port Arthur, Dalny, and Niuchwang and to the Chinese Eastern Railway, the Russians are now shipping to all of these places by steamer from Vladivostock and vicinity and from the Island of Sakhalin large quantities of lumber.

This lumber, so far as I have seen it, is of a rather inferior quality compared with the Yalu lumber. It is harder, coarser grained, warps and twists badly, and is difficult to work. Compared with the Yalu timber, it is about like the Norway pine compared with the white pine. It is, in fact, very much like the poor grade of Norway pine. What I have seen may not be the best quality, however. I am informed that the forests of Siberia and Sakhalin Island are quite extensive, and that the lumber production in that section is susceptible of great development.

This information I have from very reliable sources, but I can not write of it from personal observation. Mr Clarkson, formerly of Portland, Oregon, has a sawmill and sash and door factory at or near Vladivostock, and is reported to be having much success in this enterprise.

Another point of Russian competition in the lumber business is developing on the Sungari River, where the Chinese Eastern Railway crosses it, about 80 miles south of Harbin. Timber in considerable quantities is run down this river to this point and is being made into lumber by the Chinese method, several hundred men being engaged in the work. I am of the opinion that lumber from this source will never reach the sea in competition for the trade of China, but it will be a splendid source of supply for railway use and for the city of Harbin.

This timber, so far as I have been able to find out, is a fair grade of white pine, but the logs are all small. Whether this is due to the difficulties of driving on the stream or to the small growth in the forests, I have not been able to learn.

Harbin is today only three years old, but it is one of the greatest cities of Asia, and has the largest European population of any Asiatic city, containing 60,000 Russians, besides the soldiers. At Harbin there are two small sawmills cutting timber from the Sungari River, coming from below the city. On the railway line between Harbin and Vladivostock there are two large sawmills, the machinery for which cost, in place, 150,000 rubles ($77,250). These mills are engaged in cutting lumber at present for the railway and for the town of Harbin.

It is clear that Russia intends to provide for all the requirements of lumber in Manchuria and Siberia, with a possibility of entering the Chinese market.

The government has established a ruling that all railway and government supplies must be purchased from the Russian companies if possible. This is encouraging many industries in Manchuria, of which the lumber industry is one.

The recent purchase of considerable quantities of lumber from the United States was due to the haste in providing quarters for Russia's army in Manchuria.

The railway will require many ties, or sleepers, as these decay very fast, many having to be replaced before the railroad is completed. This is due to the fact that the railway is not yet ballasted, and the ties are laid deep in the earth and sand, not even the ends being exposed to the air. These ties are now coming in considerable quantities from Siberia and Japan, and I do not believe it possible for our country to compete for the trade.

The Russians are familiar with the lumber, wheat, and flour business, and as they have the natural advantages and the earnest support of their banks, railways, and government throughout Manchuria, I am convinced that their development of these industries is likely to soon close this market to our country in these products, and if they show intense energy and enterprise they will become severe competitors in the great markets of China for flour, especially, and possibly for lumber.

There is none of the lumber that I have yet seen equal to the Oregon pine, but much of it is good enough for the common markets of China and will be accepted for most purposes.

HENRY B. MILLER,
Niuchwang.

WEATHER PROVERBS

FROM earliest times to foretell the weather has had for all peoples of all degrees of culture an extreme fascination. The direction of the winds, the character of the clouds, the actions of insects and animals, etc., have served to foreshadow the coming weather. Every people and nearly every locality has its peculiar weather proverbs, many of which have been handed down for many generations. The modern science of meteorology has found that many of these ancient popular sayings are true enough, though many again are ridiculous. Prof. E. B. Garriott, of the U. S. Weather Bureau, has recently completed a careful selection of such weather proverbs as may be termed in the main correct for the United States, and the collection has been published by the Weather Bureau.* From this interesting collection the following sayings are taken:

Every wind has its weather.—*Bacon.*

When the wind is in the north,
The skillful fisher goes not forth;
When the wind is in the east,
'Tis good for neither man nor beast;
When the wind is in the south,
It blows the flies in the fish's mouth;
When the wind is in the west,
There it is the very best.—*Isaak Walton.*

Clouds are the storm signals of the sky.

Rapid changes in the barometer indicate early and marked changes in the weather.

A sudden rise in the barometer is very nearly as dangerous as a sudden fall, because it shows the level is unsteady. In an ordinary gale the wind often blows hardest when the barometer is just beginning to rise, directly after having been very low.

When the glass falls low,
Prepare for a blow;
When it rises high,
Let all your kites fly.—*Nautical.*

Men work better, eat more, and sleep sounder when the barometer is high.

Do business with men when the wind is from the westerly; for then the barometer is high.

Sailors note the tightening of the cordage on ships as a sign of coming rain.

When rheumatic people complain of more than ordinary pains, it will probably rain.

When the perfume of flowers is unusually perceptible, rain may be expected.

Rainbow in morning, shepherds take warning;
Rainbow at night, shepherds delight.

Human hair (red) curls and kinks at the approach of a storm and restraightens after the storm.

Cats have the reputation of being weatherwise, an old notion that has given rise to a most extensive folklore. It is almost universally believed that good weather may be expected when the cat washes herself, but bad when she licks her coat against the grain, or washes her face over her ears, or sits with her tail to the fire.

All shepherds agree in saying that before a storm comes sheep become frisky, leap, and butt or "box" each other.

When the voices of blackbirds are unusually shrill, or when blackbirds sing much in the morning, rain will follow.

Robbins will perch on the topmost branches of trees and whistle when a storm is approaching.

A bee was never caught in a shower.

Expect stormy weather when ants travel in lines and fair weather when they scatter.

Ants are very busy, gnats bite, crickets are lively, spiders come out of their nests, and flies gather in houses just before rain.

When you see the ground covered with spider webs which are wet with dew and there is no dew on the ground, it is a sign of rain before night, for the spiders are putting up umbrellas; but others say when the spiders put out their sunshades it will be a hot day.

Corn fodder dry and crisp indicates fair weather; but damp and limp, rain. It is very sensitive to hygrometric changes.

Mushrooms and toadstools are numerous before rain.

The sun, moon, and stars indicate impending weather changes only so far as their appearance is affected by existing atmospheric conditions.

The moon and the weather
May change together;
But change of the moon
Does not change the weather.
If we'd no moon at all,
And that may seem strange,
We still have the weather
That's subject to change.

When the moon rises red and appears large, with clouds, expect rain in twelve hours.

Excessive twinkling of stars indicates heavy dews, rain, or snow, or stormy weather in the near future.

A bad year comes in swimming.—*French.*

Frost year, good year. Snow year, good year.

A cow year, a sad year; a bull year, a glad year.—*Dutch.*

Leap year was ne'er a good sheep year.—(*Scotland.*)

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* Weather Folklore and Local Weather Signs. Bulletin No. 33. By E. B. Garriott, Professor of Meteorology. Prepared under the direction of Willis L. Moore, Chief U. S. Weather Bureau. Washington: Government Printing Office, 1903. $0.35.

The Russian Advance. By Albert J. Beveridge. With two maps. Pp. 486. 5½ by 8½ inches. New York: Harper Bros. 1903. $2.50 *net*.

Senator Beveridge made an extended journey through Manchuria and the Far East in 1901, preceded by a visit to Russia and Siberia. The present volume describes the impressions he derived on that journey, as well as the results of special studies he has made for a number of years of the Russian people and Russian history. His book is one of unusual power and foresight and is written in the characteristic eloquent and graphic style of the statesman author. He is a great admirer of Russian statesmanship, that "far-sighted and patient policy which has always looked ahead and considered the needs of the Russian people a century beyond the immediate moment."

The present war is the inevitable conflict of the Japanese conception of the Oriental "destiny" of Japan and the Russian conception of the Oriental "destiny" of Russia. But it is a conflict "not only of opposing interests, but of singularly acute race antipathies. Tolerant as the Russians are of other races, their hatred of the Japanese is pronounced and apparently instinctive."

Mr Beveridge tried to discover whether the Chinese in Manchuria objected to Russian control. The unanimous reply of every Chinaman, of high or low degree, seemed to be as follows: "I don't care who governs us, and I don't know a single Chinese merchant who does care. All we want is an opportunity to do business and make money." Though it was only a year after the Boxer outbreaks when Mr Beveridge was in Manchuria, he found peace and quiet everywhere. Hundreds of thousands of Chinese laborers were working on the railroad, on the new towns of Dalny, Harbin, etc., contented and happy. The secret of Russian success in bringing tranquillity so quickly is the Russian method. "It is the simple and traditional method of Russia to strike when you strike, and to spare not when you are striking. It is to wage war while war exists, and to employ the methods of peace only when war is over."

Russia waged no "milk-and-water" war in Manchuria in 1900; she waged a war of blood. But as soon as the fighting ended her soldiers stacked their guns and bayonets and started building cities and railroads. They employed thousands of Chinese laborers, paid them good wages, and kept them busy. Another cause of Russian success is the entire lack of race prejudice of the Russian. Superior to all the world, as he believes himself, he shows no offensive manner toward the other races with which he mingles; he fraternizes with the Chinaman, instead of rubbing in his superiority.

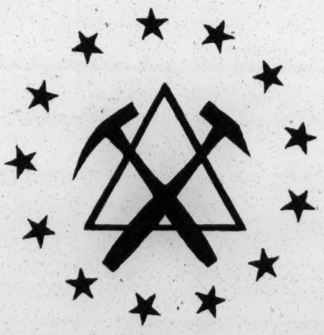
The volume deals almost entirely with the Russian advance in eastern Asia during the past few years. The closing chapters, however, discuss Russian capital and labor, the Russian workingman, priest, people, and church, Russian national ideals, the Russian common school and country hospital. There is a notable chapter on three Russians of world fame—Tolstoi, Witte, and Pobyedonostseff, procurator of the Holy Synod. Tolstoi is a noble by birth and a peasant by choice; Witte and Pobyedonostseff of the common people by birth, but of the autocracy by virtue of their very natures.

Witte has made Russia the largest owner and operator of railways in the world, the largest dealer in alcoholic liquors in the world, and soon will make her the greatest buyer and seller of tea. Should this process of giving the national government monopoly of the great industries continue, Russia will develop into a communistic state. It is said that the profits from the sale of vodka practically support the army and navy. Senator Beveridge states that the government control of the liquor business has greatly reduced drunkenness and given the people a better and purer liquor.

"Russia is no state; Russia is a world," is the voice of the soul of Russia—"Russia that ever waits; Russia that is ever patient; Russia that ever advances; Russia that never hurries; Russia that looks upon other peoples as disorganized communities and dying races and considers herself the heir of all the ages."

The two maps given are unfortunate, both being very incorrect. The map showing Russian advances in Asia represents entire Russian expansion east of the Urals as having taken place since 1648, whereas the Russian had already reached Bering Sea at that time. The statements of advance on the east coast of the Caspian, and also south of the Amur, are also much displaced in time.

The U. S. Geological Survey has adopted a design for a Survey flag. The design is shown in the accompanying diagram, the triangle, cross-hammers, and stars being white on a blue background. The flag will be flown hereafter from all Survey camps at all times. The flag was designed by Mr Robert H. Chapman, of the Survey.



A map of the Republic of Panama, 23 by 42 inches, has been published by the Military Information Division of the War Department. The map is in colors and shows in detail all that is at present known of the territory of the Republic. A large and excellent map of the Panama Canal, with explanatory text, has been published by E. J. Beverstock, of Washington, D. C.

A Map Showing Commander Peary's recent discoveries in north Greenland and Grant Land has been published by the U. S. Hydrographic Office. It is in four colors, 30 by 34 inches, and is very beautifully engraved. The price of the map is 50 cents and it may be obtained from the Hydrographic Office.

"Diplomatic and Consular Service of the United States, with maps showing location and Classification of Consular Officers of each Grand Division of the World," is the title of an exceedingly useful report by the Bureau of Statistics of the Department of Commerce and Labor.

BOOKS RECEIVED

The Philippine Islands. 1493-1898. Volume IX. 1593-1597. By Emma H. Blair and James A. Robertson. Pp. 329. 6½ by 9½ inches. Cleveland: The Arthur H. Clark Company. 1904.

New Physical Geography. By Ralph S. Tarr. With many plates and diagrams. Pp. x + 457. 5½ by 7½ inches. New York: The Macmillan Company. 1903. $1.00.

Longmans' School Geography. By George G. Chisholm and C. H. Leete. Illustrated by plates and diagrams. Pp. xii + 513. 5½ by 7¼ inches. New York: Longmans, Green & Co. 1903.

Turkish Life in Town and Country. By Lucy M. J. Garnett. Illustrated. Pp. viii + 336. 5 by 7½ inches. New York: G. P. Putnam's Sons. 1904.

Madiaeval England. By Mary Bateson. Illustrated. Pp. xxvii + 448. 5½ by 8 inches. New York: G. P. Putnam's Sons. 1904.

La Japon d'aujourd'hui. By G. Wenlersse. Pp. 359. 4½ by 7½ inches. Paris: Librairie Armand Colin. 1904.

PLACE NAMES IN EASTERN ASIA

THE breaking out of the war between Russia and Japan is bringing trouble to every household in the land, for the place names of Korea and Manchuria are spelled differently by different newspapers and on different maps. These names in the native tongue are written in characters different from those which we employ, and have been transliterated into roman characters by different persons in different ways; hence the widely varying forms which are seen. It is not generally known that a system of transliteration of such names has been adopted by most European nations, by Canada, and by this country—a system which is simple, easy of application, and which, if generally followed, reduces these variations of spelling to a minimum. This plan is published in the report of the U. S. Board on Geographic Names, and is here republished for ready reference.

RULES FOR TRANSLITERATION

a has the sound of *a* in father.
e has the sound of *e* in men.
i has the sound of *i* in ravine or of *ee* in beet.
o has the sound of *o* in mote.
u has the sound of *oo* in boot.
ai has the sound of *i* in ice.
au has the sound of *ow* in how.
ao is slightly different from above.
ei has the sound of the two Italian vowels, but is frequently slurred over, when it is scarcely distinguishable from *ey* in the English they.
c is always soft and has nearly the sound of *s*. Hard *c* is given by *k*.
ch is always soft, as in church.
f as in English; *ph* should not be used for this sound.
g is always hard. (Soft *g* is given by *j*.)
h is always pronounced when inserted.
j as in English; *dj* should never be put in for this sound.
k as in English; it should always be used for hard *c*.
kh has the sound of the oriental guttural.
gh is another guttural, as in the Turkish.
ng has two slightly different sounds, as in finger, singer.
q should never be employed; *qu* is given by *kw*.
y is always a consonant, as in yard, and should not be used for the vowel *i*.

The U. S. Board on Geographic Names has passed upon only a few of these names of eastern Asia. Among them are Amur, Chemulpo, Korea, Seoul, Manchuria, and Tokyo. Of the names already in common use in connection with the seat of war, the following forms should be employed in accordance with the rules above quoted: Mukden, Yalu, Sungari, Chefu, and Fusan. H. G.

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8 p. m., Friday, February 26.—National Rifles Armory. "Travels in Arabia and Along the Persian Gulf." Mr David G. Fairchild. Illustrated.

4.40 p. m., Saturday, February 27.—Columbian University. "The Argentine Republic." Mr Charles M. Pepper.

8 p. m., Friday, March 4.—Cosmos Club. "The Work of the National Bureau of Standards." Dr G. M. Stratton.

4.40 p. m., Saturday, March 5.—Columbian University. "San Domingo." Mr Percy King. Illustrated.

8 p. m., Friday, March 11.—National Rifles Armory. "Little Known Peoples of Mexico." Dr Carl Lumholtz. Illustrated.

4.40 p. m., Saturday, March 12.—Columbian University. "Brazil."

8 p. m., Friday, March 18.—Hubbard Memorial Hall. "The Work of the U. S. Biological Survey." Dr C. Hart Merriam.

4.40 p. m., Saturday, March 19.—Columbian University. "Peru." Hon. Manuel Alvarez Calderon, E. E. and M. P. from Peru. Illustrated.

8 p. m., Friday, March 25.—National Rifles Armory. "The Louisiana Purchase Exposition." President D. R. Francis. Illustrated.

4.40 p. m., Saturday, March 26.—Columbian University. "Chile."

8 p. m., Friday, April 1.—Hubbard Memorial Hall. "A Journey Across Mindanao." Alonzo H. Stewart. Illustrated.

4.40 p. m., Saturday, April 2.—Columbian University. "Colombia and Venezuela." Hon. F. B. Loomis, Assistant Secretary of State.

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